McLennan
COMMUNITY
COLLEGE

WACO, TEXAS

COURSE SYLLABUS

AND

INSTRUCTOR PLAN

MDCA 1402.01

Human Disease/Pathophysiology

Mr. David Choate

NOTE: This is a 16-week course.

NOTE: This is a Blended/Hybrid course.

COVID 19 Notice:

McLennan Community College is committed to providing you with every resource you need to reach your academic goals. We are also concerned for your safety. We are working through COVID-19 guidelines to make sure we offer a safe environment for you and our faculty. This will include smaller class sizes to manage social distancing and proper cleaning techniques. You will have the advantage of a physical classroom experience but may also need to work part of the time online as we adjust to limited classroom capacity. This will also allow us the flexibility to move online if so directed by federal, state and/or local COVID 19 guidelines. Faculty and staff are preparing now to ensure that you have the best experience in the midst of these uncertain times.

Course Description:

A study of anatomy and physiology with emphasis of human pathophysiology, including etiology, prognosis, medical treatment, signs and symptoms of common diseases of all body systems

*****INSTRUCTOR NOTE:*****

When contacting your professor by email for this course, you must follow these rules:

1. Write using formal English only (as if to the president of the company where you work). This means no slang, or being "lazy" with your wording. You are in college, preparing for your future, please communicate like it!
2. Use your MCC student email address
3. I check my email several times a day and try to respond as quickly as possible. However, I still have my own schedule and may not be able to respond instantly.
4. I do not respond to emails after 9 PM. If you need to contact me, please do it before then.

Prerequisites and/or Corequisites:

None

Course Notes and Instructor Recommendations:

None.

Instructor Information:

Instructor Name: David Choate
MCC E-mail: dchoate@mclennan.edu
Office Phone Number: 299-8262
Office Location: HP building Rm. 130
Office/Teacher Conference Hours: Mon- Thurs. 2-4pm,

Required Text & Materials:

Title: The Nature of Disease
Author: Thomas H. McConnell
Edition: 2nd
Publisher: Lippincott Williams and Wilkins
ISBN: 978-1-60913-369-6

MCC Bookstore Website: http://www.mclennan.edu/bookstore/

Methods of Teaching and Learning:
Lecture, Discussion Groups, Quizzes, Exams, and Tutorial Software and online lecture

NOTE: This is a hybrid class that will meet at 8am via Zoom for lecture followed by a Face to Face class on every Wednesday at 8am in HP 228.

RESEARCH PAPER

A research paper covering any disease you choose will be assigned during the first week of class and presented to the class during week 14 or 15. Your paper will be presented in MLA format with a cover page and reference page. Your paper must be at least five pages in length, which includes the title page and citation page, double spaced with citations on the last page.

Course Objectives and/or Competencies:
All CAAHEPs listed competencies must be met by each student

Cognitive Domain

I. Anatomy and Physiology

.6 Identify common pathology related to each body system
.7 Analyze pathology as it relates to the interaction of body systems
.8 Discuss implications for disease and disability when homeostasis is not maintained
.9 Describe implications for treatment related to pathology
.10 Compare body structure and function of the human body across the lifespan

II. Applied Microbiology/Infection Control

.1 Describe the infection cycle, including the infectious agent, reservoir, susceptible host, means of transmission, portals of entry. and portals of exit
.5 List major types of infectious agents

Nature of Disease Chapter Competencies

Chapter 1 Health and Disease

1. Define disease, and compare and contrast acute and chronic disease.
2. Describe the relationship between structure and function.
3. Discuss disease progression from latent period to complications/sequelae.

4. Compare and contrast the terms “etiology,” “pathogenesis,” and “pathophysiology.” Also compare and contrast the terms “idiopathic,” “iatrogenic,” and “nosocomial.”
5. Define “epidemiology,” “incidence,” and “prevalence.”
6. Discuss the roles environmental factors, genetic factors, and determinants of health in the disease process.
7. Compare and contrast symptoms and signs.
8. List the types of tests that are used to study disease (consider anatomical and clinical pathology).
9. Explain the meaning of the terms “mean,” “normal range,” and “standard deviation” as they relate to medical tests and the concepts of normal and abnormal.
10. List the factors that influence the use of diagnostic tests. How does disease prevalence and incidence affect a diagnostic test? How should these tests be administered (e.g., why administer a sensitive test first)?

Chapter 2 Cellular Pathology: Injury, Inflammation, and Repair

1. Name and describe the various types of stem cells.
2. Explain the difference between labile, stable, and permanent cells.
3. Discuss the various mechanisms of cell injury.
4. Compare and contrast the response to reversible injury (i.e., accumulations and adaptations) with the response to irreversible cell injury (i.e., apoptosis and necrosis).
5. Describe the cells and chemical mediators of the inflammatory process.
6. Compare and contrast acute and chronic inflammation.
7. Describe the systemic effects of inflammation.
8. Distinguish between parenchymal and fibrous repair.
9. Compare and contrast healing by first and second intention.
10. List factors that cause abnormal would healing.

Chapter 3 Disorders of the Immune System

1. Name the two principal nonimmune defense systems.
2. Describe the components of the lymphatic system and their function.
3. Compare and contrast innate and adaptive immunity.
4. List the cells of the immune system and describe their role in immunity.
5. Name the five types of antibodies and discuss the contest in which they function.
6. Explain the difference between MHC Type I and Type II display.
7. Discuss the pathogenesis of the four types of hypersensitivity and give examples of each type.
8. Using examples from the text, explain the pathogenesis of allergic and atopic reactions.
9. Briefly discuss the immune mechanisms and clinical findings in rheumatoid arthritis, Sjogren disease, systemic sclerosis, inflammatory myopathy, and systemic lupus erythematosus.

Chapter 4 Infectious Disease

1. List the most common worldwide causes of death resulting from infection.
2. Briefly describe how organisms spread in tissue.
3. Name the three mechanisms that are responsible for causing damage to tissue.
4. Describe the cellular inflammatory reaction to bacteria, viruses, mycobacteria, fungi, parasitic worms, and protozoa.
5. List the clinical phases of infection that occur after an organism invades the body.
6. Discuss the signs, symptoms and pathogenesis of the following virus infections: rhinovirus; adenovirus; respiratory syncytial virus, influenza; rotavirus; Norwalk virus; Coxsackie virus; measles; rubella; mumps; poliomyelitis; herpes simplex virus; herpes zoster virus; cytomegalovirus; human papillomavirus.
7. Categorize the following bacteria according to shape, oxygen requirements; and staining characteristics, and describe the accompanying symptoms; staphylococcus; streptococcus; diphtheria; listeria, Clostridium, Neisseria; Rickettsia; Bordetella pertussis, Pseudomonas; campylobacter; Borrelia burgdorferi; mixed anaerobic infection; and tuberculosis.
8. Discuss how patient immune system functionality alters the types of fungal infections that patients acquire.
9. Discuss the manifestations of the most common parasitic infections, including: protozoa (malaria, amebiasis, giardiasis), helminthes (intestinal nematodes, filariasis, schistosomiasis; tapeworms), and ectoparasites (lice, scabies).
10. Using clinical presentations and pathological findings, distinguish amongst the most common sexually transmitted diseases.
11. Know the “gold standard,” as well as the newer diagnostic tests available, when it comes to identifying infectious organisms.

Chapter 5 Neoplasia

1. Explain how the name of a tumor provides insight into its composition and prognosis and whether there are any exceptions to this naming convention.
2. List the seven hallmarks of cancer.
3. Using examples from the text, explain the various etiologies responsible for carcinogenesis.
4. Name the four type of genes mutated in neoplasia.
5. Discuss the importance of heterogeneity, doubling time, growth fraction, angiogenesis, metastatic potential, and immunodeficiency in tumor prognosis.
6. Describe the local and systemic (paraneoplastic) effects that might manifest secondary to tumor presence.
7. Discuss the available methods for diagnosing malignancy, as well as their benefits and caveats.
8. Compare and contrast the growth and microscopic appearances of benign versus malignant neoplasms, and explain the difference between histologic grading and clinical staging of a malignancy.

9. Discuss the type of treatment available to patients diagnosed with cancer.
10. Describe the screening guidelines for cervical, breast, prostate, and colon cancer.

Chapter 6 Disorders of Fluid, Electrolyte and Acid-Base Balance, and Blood Flow

1. Explain the difference between hydrodynamic pressure, hydrostatic pressure, and osmotic pressure.
2. Define cardiac output and what factors determines it.
3. Compare and contrast arteries, arterioles, capillaries, veins, and lymphatics.
4. Briefly discuss body water compartments, body water balance, and how salts regulate this balance.
5. Discuss the types of edema and separate them into exudates and transudates.
6. Using examples from the chapter, discuss the difference between hypertonic, hypotonic, and normocytic dehydration.
7. Describe the signs and symptoms of electrolyte imbalances of sodium, potassium, calcium, phosphate, magnesium, and chloride.
8. Discuss the types of acid-base imbalance, and how compensation acts to restore homeostasis.
9. Explain the difference between congestion and hyperemia.
10. Name the three elements of hemostasis that act to stop bleeding.
11. Classify hemorrhages by size, and discuss their cause and manifestation.
12. Compare and contrast clotting and thrombosis.
13. Discuss the different types of emboli.
14. Explain why arterial occlusion is not always followed by infarction and infarction may occur without arterial occlusion.
15. Name the type of stages of shock.

Chapter 7 Disorders of Blood Cells

1. List the three cell lines derived from hematopoietic stem cells.
2. Explain what is meant by red cell indices, and how they are calculated.
3. Compare and contrast the major types and subtypes of anemia, including those caused by hemorrhage, production defects, and destruction.
4. Explain the difference between relative and absolute erythrocytosis.
5. Distinguish between leukopenia, neutropenia, agranulocytosis, and leukemoid reaction, and explain the significance of a left shift.
6. Distinguish between leukemia and lymphoma.
7. Compare and contrast acute myelogenous leukemia, myelodysplasia syndrome, and myeloproliferative.
8. Compare and contrast lymphocytic leukemia’s and the lymphoma subtypes.
9. Discuss plasma cell proliferations and explain why patients have abnormal blood proteins.
10. Define hypersplenism.

Chapter 8 Disorders of Blood Vessels

1. Discuss how vessel structure varies with its function.
2. Classify the plasma lipids.
3. Discuss the risk factors, clinical manifestations, and pathological findings associated with hypertension.
4. List the predisposing factors, indicators of risk, pathologic processes, clinical complications, and treatment of atherosclerosis.
5. Name the most common causes of aneurysm and dissections.
6. Describe the pathological findings associated with the affected vessel and the clinical manifestations of the following vasculitides:
    - Temporal arteritis
    - Takayasu arteritis
    - Polyarteritis nodosa
    - Kawasaki disease
    - Microscopic polyangiitis
    - Wegener granulomatosis
    - Thromboangiitis obliterans
7. Compare and contrast primary and secondary Raynaud syndrome.
8. Describe the pathogenesis of varicose veins and thrombophlebitis.
9. Know whether the following are benign or malignant: hemangioma, lymphangioma, vascular extasia, Kaposi sarcoma, and angiosarcoma.

Chapter 9 Disorders of the Heart

1. The anatomy of the heart is a reflection of its function; describe its manifestation in muscle contraction, one-way valves, blood supply, and conduction.
2. List the three waves of an electrocardiogram (EKG or ECG) and give their source.
3. Name the five principles of healthy cardiac function.
4. Compare and contrast the different types of heart failure, discussing their etiology, clinical signs/symptoms, and the lifestyle changes and medication indicated for treatment.
5. Discuss the etiology of coronary artery disease, distinguishing angina pectoris from a true myocardial infarct, and identify the signs/symptoms, diagnosis, treatment, and complications of each.
6. Discuss the etiology, signs/symptoms, diagnosis, treatment, and complications of valvular degeneration, rheumatic heart disease, and endocarditis.
7. List the causes of myocarditis, and describe disease presentation and diagnosis.
8. Compare and contrast dilated, hypertrophic, and restrictive cardiomyopathy.
9. Discuss the etiology, presentation diagnosis, and treatment of pericardial effusions and pericarditis.
10. Compare and contrast acyonotic, cyanotic, and obstructive heart disease, and give examples of each.
11. List the tumors that can arise in the heart.

12. Explain the causes of arrhythmia, the locations from which they can arise, and their diagnostic findings on ECGs.

Chapter 10 Disorders of the Respiratory Tract

1. Discuss the organization of the respiratory tract, and explain how its varying morphology reflects its function.
2. Using spirometry patterns, distinguish between obstructive and restrictive airway disease.
3. List the diseases affecting the upper respiratory tract and describe their etiology.
4. Identify the three types of atelectasis and their respective causes.
5. Discuss the pathophysiology, signs and symptoms, and treatment of pulmonary edema.
6. Describe the etiology, clinical presentation and findings, prognosis, and treatment of acute respiratory distress syndrome.
7. Compare and contrast the symptoms and associated pathological findings of obstructive apnea, asthma, bronchiectasis, and chronic obstructive pulmonary disease.
8. Discuss the clinical presentation and diagnostic findings of restrictive lung disease.
9. Summarize the etiology, presentation, findings, and potential complications of pulmonary thromboemboli, including pulmonary hypertension; and explain alternative causes of pulmonary hypertension.
10. Characterize, where applicable, the etiologies of pneumonia as; lobar or interstitial, and/or nosocomial, community acquired, aspiration, chronic, or occurring in and immunodeficient host.
11. Compare and contrast small-cell and nonsmall-cell carcinomas of the lung.
12. Identify the potential substances that might be found in the pleural space, and the consequences of their accumulation.

Chapter 11 Disorders of the Gastrointestinal Tract

1. Explain how the organs of the gastrointestinal (GI) system perform their six functions.
2. Describe the various signs and symptoms of GI disorder including: anorexia, nausea, emesis, diarrhea, dysentery, steatorrhea, belching, flatulence, constipation, bleeding, and obstruction.
3. Name and describe the lesions that can affect the oral cavity including: malformations, tooth loss, ulcers, autoimmune disease, and cancer.
4. Compare and contrast esophageal adenocarcinoma with squamous cell carcinoma.
5. Discuss the manifestations and treatment options for the following diseases: pyloric stenosis, bleeding gastric erosions, autoimmune gastritis, chronic peptic ulceration, Heliobacter pylori infection, and stomach cancer including lymphoma.
6. Define the following congenital anomalies of the small and large intestines: Meckel diverticulum, omphalocele, gastroschisis, Hirschsprung megacolon.
7. Define ischemic vascular disease and hemorrhoids.
8. Discuss the pathogenesis and manifestations of the viruses, bacteria, and protozoa responsible for causing infections of the bowel.

9. Among patients with malabsorption syndrome, distinguish between luminal and intestinal malabsorption.
10. Compare and contrast ulcerative colitis and Crohn disease, including the extra intestinal manifestations.
11. Discuss the pathogenesis and manifestations of appendicitis.
12. Explain the importance of non-neoplastic polyps of the colon, and their relationship to colonic carcinoma.
13. Define diverticulosis, anal fissure, anorectal abscess, and anal fistula.

Chapter 12 Disorders of the Liver and Biliary Tract

1. Explain the function and structure of the liver circulatory systems.
2. Discuss the complications associated with liver injury.
3. Compare and contrast the transmission route, incubation time, clinicopathologic syndromes associated with, and diagnostic findings of HAV, HBV, and HCV, and briefly comment on the clinical significance of infection with HDV and HEV.
4. Name the nonviral causes of inflammatory liver disease.
5. Using examples from the text, compare and contrast close-and nondose-related liver reaction; briefly discuss Reye syndrome.
6. Describe the acute and chronic changes induced in the liver by alcohol abuse.
7. Discuss the etiology of metabolic liver disease, distinguishing nonalcoholic fatty liver disease, hemochromatosis, Wilson disease, and Alpha-1 antitrypsin deficiency from one another, and identify the sighs/symptoms, diagnosis, treatment, and complications of each as applicable.
8. Compare and contrast secondary biliary cirrhosis with primary biliary cirrhosis and sclerosing cholangitis.
9. Name the causes of prehepatic, intrahepatic, and posthepatic obstruction of blood flow.
10. List the tumors that can arise in the liver.
11. Describe the etiologies, risk factors, symptoms, and complications of extrahepatic bile duct obstruction.

Chapter 13 Disorders of the Pancreas

1. Discuss the anatomy of the pancreas, and make a clear distinction between the digestive and the hormonal pancreas.
2. Explain the relationship of insulin, glucagon, somatostatin, and glucose to one another and to stored glycogen.
3. Compare and contrast the etiology, clinical presentation, and complications of acute and chronic pancreatitis.

4. Compare and contrast the underlying etiology of Type I and Type II diabetes, paying special attention to its most important contributing factors where applicable.
5. List the accompanying signs and symptoms of diabetes, in addition to its diagnostic criteria.
6. Describe the complications of diabetes, noting the leading cause of mortality.
7. Discuss potential lifestyle modifications and available therapeutics in the treatment of diabetes.
8. Explain the clinical presentation and complications of adenocarcinoma of the pancreas, and five a reasonable estimate of the five-year survival rate.
9. Aside from adenocarcinoma of the pancreas, name the other pancreatic tumors and describe their diagnostic findings.

Chapter 14 Disorders of the Endocrine Glands

1. Using examples from the text, explain homeostatic negative feedback loops.
2. Classify the types of functioning pituitary adenomas according to cell of origin, hormone produced, and clinical finding; include a description of mass and stalk effect.
3. Describe the presentation of hypopituitarism and catalog the potential underlying etiologies.
4. Compare and contrast diabetes insipidus and syndrome of inappropriate ADH secretion.
5. Categorize the diseases of the thyroid—goiter, euthyroid sick syndrome, thyrotoxicosis, Grave disease, cretinism, myxedema, Hashimoto thyroiditis, and subacute granulomatous thyroiditis—as hyperthyroid, euthyroid, or hypothyroid, and give their characteristic, features and diagnostic findings.
6. Discuss the etiology, clinical presentation, and diagnostic findings of Cushing syndrome, primary hyperaldosteronism, congenital adrenal hyperplasia, and causes of adrenocortical failure including Addison disease.
7. Explain why patients with phechromocytoma have high blood pressure.
8. Distinguish hypo-from hyperparathyroidism using signs and symptoms, and offer a brief profile of the possible laboratory abnormalities.
9. Compare and contrast the MEN syndromes.

Chapter 15 Disorders of the Urinary Tract

1. Discuss the relationship between the anatomy of the kidney and its five functions, including the transformation of glomerular filtrate to urine.
2. Explain the significance of some of the more important urine abnormalities such as glycosuria and others.
3. Explain the causes, manifestations, and consequences of urinary tract obstruction and reflux.
4. Compare and contrast the types of urinary stones capable of forming in the kidney.
5. Name the most important malignancies of the urinary tract, and describe the findings associated with each.
6. List the congenital abnormalities that may arise in the lower urinary tract.

7. Describe the etiology, signs and symptoms and treatment of lower urinary tract infections.
8. List the possible causes of voiding disorders; be sure to distinguish between the various types of incontinence.
9. Distinguish between renal diseases and syndromes of renal disease.
10. List the inherited, congenital, and developmental diseases that affect the kidney, and differentiate between the diseases capable of causing kidney cysts.
11. Explain the difference between nephritic syndrome and nephrotic syndrome, giving examples of each; pay special attention to those that are most common.
12. Describe the clinical presentation and course of acute kidney injury.
13. Discuss the etiologies, clinical features, diagnostic findings, and treatment of the various causes of tubulointerstitial nephritis.
14. Describe the signs, symptoms, and pathological features of pyelonephritis.
15. Using examples from the text, discuss the primary mechanisms by which the kidney causes hypertension and the associated pathological changes in the kidney secondary to hypertension.

Chapter 16 Disorders of the Male Genitalia

1. Explain the function(s) of each part of the male genital system.
2. Briefly explain the causes of erectile dysfunction.
3. Discuss the various male factors taken into consideration when diagnosing the underlying etiology of infertility.
4. Describe the etiology, signs and symptoms, pathological findings, treatment, and consequences of penile diseases, as applicable.
5. Name the diseases affecting the scrotum and groin.
6. Discuss the etiology, presentation, diagnosis, and treatment of the following disease of the testis and epididymis: edidymitis, orchitis, torsion.
7. Explain the role of cryptorchidism in malignancy, and differentiate between germ and nongerm cell tumors.
8. Characterize the types of prostatitis according to etiology signs and symptoms, diagnostic findings, and treatment.
9. Compare and contrast the clinical and diagnostic features of benign prostatic hyperplasia and prostate cancer.

Chapter 17 Disorders of the Female Genitalia and Breast

1. Name and describe the components of the female genitalia.
2. Discuss the hormonal and accompanying physiological changes that occur during each stage of the menstrual cycle.
3. Discuss the advantages and disadvantages of hormone replacement therapy in women with menopause.

4. Describe the hormonal and resulting physiological changes, including complications, that (may) occur with pregnancy.
5. List the causes and treatment of female infertility.
6. Compare and contrast the causes of leukoplakia
7. Differentiate between the various etiologies of vaginitis; include treatment where applicable.
8. Describe the conditions affecting the cervix; pay particular attention to the progression and prevention of HPV-induced carcinoma.
9. Discuss the clinical presentation, diagnostic findings, and treatment as applicable for the etiologies responsible for pathological and functional uterine bleeding and endometritis.
10. Use imaging and pathological findings to differentiate between the possible etiologies of an ovarian mass.
11. Describe the anatomy of the breast.
12. Discuss the factors one should consider when evaluating a patient for breast cancer.
13. Compare and contrast the clinical findings of mastitis, subareolar absess, and fat necrosis.
14. Name the key difference between nonproliferative and proliferative fibrocystic change of the breast, and explain why the difference is important.
15. List the benign tumors of the breast, including fibroadenoma, phyllodes, and intraductal papilloma, and discuss their hallmark features.
16. Discuss the differential diagnosis of a malignant breast mass, and describe the signs, symptoms and pathological findings that aid in the diagnosis as well as the risk factors that affect patient prognosis.

Chapter 18 Disorders of Bones, Joints, and Skeletal Muscle

1. Explain the functions of the skeletal system in relation to its organization.
2. Categorize the types of joints and describe their components.
3. Describe the anatomy of skeletal muscle and its connection to the nervous system.
4. Describe the clinical presentation of bone disorders affecting growth, maturation, modeling and maintenance.
5. Distinguish between osteoporosis and oseomalacia, taking into consideration pathogenesis, clinical presentation, diagnosis, and treatment.
6. List fracture types, their potential risk factors, and their phases of healing.
7. Name the types of bone infarctions and infections.
8. Discuss the most common etiologies of bone infection, noting the clinical and diagnostic features.
9. Classify the tumors affecting the bone according to their composition, whether they are benign or malignant, their location, their pathological findings, and their prognosis.
10. Characterize the kinds of arthritis according to etiology, signs and symptoms, diagnostic findings, and treatment.
11. List the types of injuries to joins and periarticular tissues.

12. Name the distinguishing features that separate fibromyalgia from arthritis and other painful musculoskeletal syndromes.
13. Differentiate between ganglion cysts and tensynovial giant cell tumors using location, clinical presentation and or diagnostic findings as applicable.
14. Distinguish between neurogenic and disuse atrophy of skeletal muscle.
15. Using examples from the text, characterize each of the dystrophies, congenital myopathies, inborn errors of metabolism, causes of myostitis, and toxic myopathies according to the diagnostic and clinical findings.
16. Explain the molecular pathogenesis of myasthenia gravis.

Chapter 19 Disorders of the Nervous System

1. Name the parenchymal and ancillary cells of the central nervous system (CNS).
2. Discuss the architecture of the brain: the difference between gray matter and white matter; the production, circulation, and absorption of cerebrospinal fluid (CSF); and the arrangement and special properties of cerebral vasculature.
3. Distinguish between the somatic and autonomic nervous systems.
4. Explain the causes and consequences of increased intracranial pressure.
5. List the congenital and perinatal diseases of CNS.
6. Describe the clinical and pathologic findings (as applicable) of concussions, contusions, and diffuse axonal injury.
7. Compare and contrast the anatomic location, the cause, and the consequences of subdural hematoma, epidural hematoma, and subarachnoid hemorrhage.
8. Distinguish between hemorrhagic, and nonhemorrhagic infarct, noting the differences between the anatomic location, causative factors and/or precursors, and pathologic findings.
9. Classify the etiologies of CNS infections according to their site of infection and the population they infect.
10. Discuss the probable cause, the signs and symptoms, and the pathologic findings of multiple sclerosis.
11. Catalogue the metabolic disorders of the CNS according to their cause.
12. Explain the clinical and diagnostic features of the various causes of dementia, as well as their underlying biochemical dysfunction (where applicable).
13. Classify the CNS neoplasms according to their cell/tissue type.
14. Review the diseases, both neoplastic and non-neoplastic that affect peripheral nerves, giving their clinical and pathologic features.

Chapter 20 Disorders of the Senses

1. Describe the anterior segment (both the anterior and posterior chambers) and the posterior segment flow of aqueous humor.
2. Discuss the causes and complications, where applicable, of strabismus and nystagmus.
3. List the causes of ocular trauma.
4. Name the causes of proptosis.

5. Compare and contrast myopia, hyperopia, presbyopia, and astigmatism.
6. Catalog the disorders of the eyelid, conjunctiva, sclera, and lacrimal apparatus according to their underlying etiology (whether infectious, autoimmune, bot, or other) and discuss their clinical presentation and treatment.
7. Distinguish between infectious and noninfectious disorders of the cornea, and discuss the accompanying signs and symptoms.
8. Explain the pathophysiology of cataracts.
9. List the components of the uveal tract and discuss the types, etiologies, and complications of uveitis.
10. Discuss the differential diagnosis for someone experiencing vision loss, noting key signs and symptoms that can be used to discriminate amongst the etiologies.
11. Distinguish between primary open-angle glaucoma, primary closed-angle glaucoma, and secondary glaucoma, and discuss the relationship of intraocular pressure to glaucoma.
12. Compare and contrast ocular malignant melanoma and retinoblastoma.
13. Name the three anatomic divisions of the ear, and describe the anatomy responsible for hearing and equilibrium.
14. Discuss the risk factors, etiology, and signs and symptoms of otitis externa.
15. Distinguish between the types of otitis media.
16. Explain the differential diagnosis of a patient suffering with vertigo.
17. Name the three general categories of hearing loss.
18. Explain the mechanisms responsible for taste and smell, and their relationship to one another.
19. List the disorders that affect taste and smell.
20. Name the receptors of sensation and their corresponding somatic sense.
21. Using examples from the text, discuss the etiology and clinical findings of patients with somatosensory disorders.

Chapter 21 Disorders of the Skin

1. Differentiate between dermis, epidermis, and subcutaneous using architecture, function, and the elements contained within each.
2. Using examples from the text, classify the general conditions of skin according to their underlying etiology and provide their accompanying signs and symptoms.
3. Discuss the infections and infestations that affect the skin.
4. Describe the differences between acne and rosacea.
5. List and classify the types of dermatitis as acute or chronic, noting the clinical characteristics, underlying etiology, and treatment options where applicable.
6. Compare and contrast scleroderma with panniculitis.
7. Categorize the blistering diseases according to the skin layer in which they are formed, and discuss their clinical and pathological features.
8. Describe the etiology, clinical features, and treatment (as applicable) of vitiligo, albinism, freckles, and lentigos.

9. Discuss the spectrum of melanocytic lesions; pay particular attention to the diagnostic and prognostic features of melanoma.
10. List several neoplasms or neoplasm-like lesions of the dermis, catalog them as hyperplastic, premalignant, or malignant, and explain their pathogenesis.
11. Provide a differential diagnosis for hair loss.
12. Compare and contrast onychogryphosis, onycholysis, paronychia, and onychomysosis.

Chapter 22 Congenital and Childhood Disorders

1. Describe the timeline of embryonic and fetal development throughout a normal pregnancy.
2. Compare and contrast malformation, deformations, and disruptions.
3. Describe the environmental factors responsible for causing congenital malformations including: nutrient deficiencies, radiation, teratogens/drugs, and infections.
4. Describe different types of mutations and how they affect the genetic code.
5. Using examples from the text, describe the different modes of inheritance, and the different types of genes that may be mutated.
6. Using examples from the text, define the pathogenesis of multifactorial diseases.
7. Describe the signs, symptoms, and cytogenic changes found in Turner, Klinefelter, and Downs syndromes.
8. Understand the indications for genetic screening, and the test available.
9. Describe the changes that take place after an infant's birth, including pulmonary, cardiovascular, hemoglobin production, immune system, renal function, and liver function (glucose metabolism and metabolism of bilirubin.
10. Discuss the problems that arise in premature infants.
11. Know the infectious processes that present in the perinatal/neonatal periods.
12. Be able to recognize the presentation of the following diseases:
    a. RSV, bronchiolitis, whooping cough, croup, diphtheria, epiglottitis, mono
    b. Acute otitis media
    c. Chickenpox
    d. Measles, mumps, rubella
    e. HIV/AIDS
13. Be able to name the risk factors associated with SIDS.
14. Answer the following questions: What are the differences between chorisoma, hamartoma, and teratoma? What are the most common tumors, by tissue, in children?

Chapter 23 Disorders of Daily Life

1. Name several of the most common causes of death in the United States, and discuss the environmental aspects.

2. Distinguish between the grades and types of injury that occur with burns (including electrical) and cold and heat exposure; describe the potential complications of each.
3. Discuss the manifestation of, and the variables that influence, radiation injury.
4. Using examples from the text, briefly discuss the clinical presentations and findings of occupational pollutant, toxin, and drug exposure; include asbestos, silica, ozone, second hand smoke, carbon monoxide, organophosphate, lead, mercury, arsenic, cadmium, and iron.
5. Discuss the risks associated with the following therapeutic agents: hormone replacement therapy, oral contraceptives, anabolic steroids, aspirin, and acetaminophen.
6. Name several diseases other than lung cancer that are related to cigarette smoking.
7. Name several conditions associated with alcohol.
8. List the complications of drug abuse, and explain why intravenous use is especially risky.
9. Explain the potential consequences of diets containing a calorie deficiency or excess, and be able to calculate body mass index.
10. Using examples from the text, discuss how the differences between fat-soluble and water-soluble vitamins are reflected in vitamin deficiency and toxicity.

Chapter 24 Aging, Stress, Exercise and Pain

1. Explain the role of telomere length, reactive oxygen species (free radicals) environmental toxins, and apoptosis in cellular aging.
2. Compare the form and function of different body systems between young and older adults.
3. Describe the three phases of the stress response.
4. Compare and contrast the effects of cortisol and the sympathetic nervous system during the stress response.
5. Describe the deleterious effects that occur with stress exhaustion.
6. List some stress-related diseases and disorders affecting different body systems.
7. Explain how exercise training improves the functioning of different body systems.
8. Identify the three main types of sports injuries, and be able to give examples of each.
9. Describe the effects of immobility of different body systems.
10. Understand the subjective nature of pain and be able to describe types of pain.

Course Outline or Schedule:

Note: All exams will be on the last class day of the week.

Week one
Ch. 1 & 2

Week two
Ch. 3&4
Exam Ch. 1-4

Week three
Ch. 5&6

Week four
Ch. 7&8
Exam Ch. 5-8

Week five
Ch. 9&10

Week six
Ch. 11&12
Exam Ch. 9-12

Week seven
Ch. 13&14

Week eight
Ch.15&16
Exam Ch. 13-16

Week nine
Ch.17&18
Spring Break 3/6-3/10

Week ten
Ch.19&20
Exam Ch. 17-20

Week eleven
Ch. 21&22

Week twelve

Ch. 23&24
Exam Ch. 21-24

Week thirteen
Ch. 25
Exam

Week 14
Research Presentation

Week fifteen
Finals Prep Week

Week sixteen
Final Exam Week

NOTE: POP QUIZZES MAY BE GIVEN AT ANY TIME. ALL UNIT EXAMS WILL BE GIVEN ON WEDNESDAY OR THURSDAY OF THE SCHEDULED WEEK.

Course Grading Information:

EXAMS—40%
RESEARCH PAPER–25%
QUIZZES—10%
FINAL EXAM—25%

NOTE: ATTENDANCE IS EXPECTED AND REQUIRED, 1 POINT (1%) WILL BE DEDUCTED FROM THE STUDENTS FINAL AVERAGE FOR EACH UNEXCUSED ABSENCE THROUGHOUT THE SEMESTER. FOR POINT PURPOSES 2 TARDYS WILL COUNT AS AN UNEXCUSED ABSENCE.

NOTE: CHEATING OR PLAGARISM WILL NOT BE TOLERATED IN ANY FORM. FIRST OFFENCE WILL RESULT IN A GRADE OF ZERO ON SAID WORK/EXAM, SECOND OFFENCE WILL RESULT IN EXPULSION FROM THE PROGRAM.

Late Work, Attendance, and Make Up Work Policies:

Note: The college and accreditation standards require at least 75% of the classes be attended for this course. YOU WILL BE DROPPED FROM THIS COURSE AT THE POINT YOU REACH 8 UNEXCUSED ABSENCES.

EXAMS ARE ELIGIBLE FOR MAKE UP WITH A 10 POINT PENALTY. QUIZZES CANNOT BE MADE UP.

Note: Make up exams MUST be scheduled with your instructor within one week of test date and will not be the same exam. It will cover the same material but the questions will be different!

Student Behavioral Expectations or Conduct Policy:

PROPER STUDENT BEHAVIOR DURING CLASS AND CLINICALS IS EXPECTED. THIS INCLUDES, PROPER RESPECT FOR YOUR CLASSMATES, YOUR INSTRUCTOR, DRESS CODES, LANGUAGE, ATTITUDE, AND RESPECT FOR THE FIELD IN WHICH YOU ARE ENTERING. ANY DEVIATION FROM THESE EXPECTATIONS WILL BE DEALT WITH ACCORDING TO THE GENERAL CONDUCT POLICY OUTLINED IN THE HIGHLANDERS GUIDE, INCLUDING SUSPENSION AND UP TO EXPLUSION.

*** Click Here for the MCC Academic Integrity Statement**
(www.mclennan.edu/academic-integrity)
The link above will provide you with information about academic integrity, dishonesty, and cheating.

*** Click Here for the MCC Attendance/Absences Policy**
(https://www.mclennan.edu/highlander-guide/policies.html)
Click on the link above for the college policies on attendance and absences. Your instructor may have additional guidelines specific to this course.

* *You will need to access each link separately through your Web browser (for example: Mozilla Firefox, Chrome, Microsoft Edge or Safari) to print each link's information.*

McLennan COMMUNITY COLLEGE

ACADEMIC RESOURCES/POLICIES

Student Support/Resources:
MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at http://www.mclennan.edu/campus-resource-guide/

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact a success coach by calling (254) 299-8226. Students can visit the Completion Center Monday-Friday from 8 a.m.-5 p.m. to schedule a meeting with a success coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff based on household size. Text (254) 870-7573 to schedule a pantry appointment. The Completion Center and pantry are located on the Second Floor of the Student Services Center (SSC).

MCC Foundation Emergency Grant Fund:
Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html to find out more about the emergency grant. The application can be found at https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf.

Minimum Technical Skills:
Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

Backup Plan for Technology:
In the event MCC's technology systems are down, you will be contacted/notified through your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

*** Click Here for the Minimum System Requirements to Utilize MCC's D2L|Brightspace (https://www.mclennan.edu/center-for-teaching-and-learning/Faculty%20and%20Staff%20Commons/requirements.html)**
Click on the link above for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

Email Policy:
McLennan Community College would like to remind you of the policy (http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are expected to read and, if needed, respond in a timely manner to college emails.

Instructional Uses of Email:
Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with her/his students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

Email on Mobile Devices:
The College recommends that you set up your mobile device to receive McLennan emails.

Forwarding Emails:
You may forward the emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may become lost or placed in junk or spam filters.

Accommodations/ADA Statement
Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. Instructors should not provide accommodations unless approved by the Accommodations Coordinator. For additional information, please visit mclennan.edu/disability.

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

disabilities@mclennan.edu
254-299-8122
Room 319, Student Services Center

*** Click Here for more information about Title IX**
(www.mclennan.edu/titleix)
We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at

titleix@mclennan.edu or by calling Dr. Drew Canham (Chief of Staff for Equity & Inclusion/Title IX) at 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC by calling 299-8210. The MCC Student Counseling Center is a confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting the following website: http://www.lighthouse-services.com/mclennan/.

McLennan's Title IX webpage (http://www.mclennan.edu/titleix/) contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

* *You will need to access each link separately through your web browser (for example Mozilla Firefox, Chrome, Microsoft Edge, or Safari) to print each link's information.*