

TEXAS CHIROPRACTIC COLLEGE
DIVISION OF BASIC SCIENCES
DEPARTMENT OF PATHOLOGY AND MICROBIOLOGY
COURSE SYLLABUS

Course Title: Systems Pathology I

Course number: PA 4652

Trimester/Year: Summer, 2010

Credit hours: 6 credits (105 hours)

Course meeting time:

- 1. Lecture hours: 75 (5 hours/week):**
 - **Monday: 1:00-1:54, R-200**
 - **Tuesday: 9:00-9:54, R-206**
 - **Wednesday: 10:00-10:54, L-203**
 - **Thursday: 11:00-11:54, L-203**
 - **Friday: 11:00-11:54, R-200**

- 2. Lab hours: 30 (2 hours/week):**
 - **Thursday: 3:00-4:54, L-206**

Course Professor:

Dr. Ezzat Mikhail, M.D., D.T.M. & H., D.M. Sc., M.S., Ph. D.
Professor of Pathology, Chair of Pathology and Microbiology Department.

Lab Instructor: Dr. Rafael Segrera, D.O.

Course prerequisites: General Pathology, Endocrine and Neurophysiology

Office hours: Monday through Friday,
Any time from 9:00-4:00 (**no appointment required**).

Office location: # 323 (AUD)

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Scholar 360 address: <http://scholar360.com/txchiro/>

Holidays:

- **Memorial Day: Monday, May 31**
- **Independence Day: Monday, July 5**
- **Homecoming: Thursday and Friday, July 15-17**

Required Readings:

- (1) Basic Pathology: Kumar, V.; Abbas, A. K.; Fausto, N. and Mitchell, R. N., 8th edition, Saunders, Philadelphia, 2007.
- (2) Lecture Note Pack: Hard copies for the lecture notes and clinical cases are provided by the instructor in the library for the students to make copies.

Suggested readings:

Review Questions For the NBCE Examinations. Pat I and II, Mosby, 2006

COURSE DESCRIPTION:

This course introduces the students to the pathological basis of systemic diseases including the nervous, musculoskeletal, digestive, urinary, reproductive and endocrine systems. It provides an understanding of the etiology, pathogenesis, morphological changes (both gross and microscopic) and clinical picture (signs and symptoms) that occur in the disease process. This information will provide the rationale for diagnosis, management, prevention and health promotion.

COURSE OBJECTIVES:

After studying each chapter, the student should be familiar with the following topics:

I. CENTRAL AND PERIPHERAL NERVOUS SYSTEM:

- (1) Understand the circulation of the cerebrospinal fluid and how it relates to the etiology of hydrocephalus.
- (2) Compare and contrast the anatomic locations, the causes and the effects of epidural, subdural, subarachnoid and intracerebral hemorrhages.
- (3) Know the etiology of bacterial meningitis, clinical features and the diagnostic significance of CSF changes.
- (4) Be familiar with the major pathological changes associated with the degenerative disorders of CNS. Recite the important features of each.
- (5) Name the primary intracranial tumors, their origin and location.
- (6) Know the diseases commonly associated with peripheral neuropathy.

II. BONES, JOINTS AND SKELRTAL MUSCLES:

- (7) Be familiar with the major pathological alterations in the structure and functions of bones in genetically transmitted disorders.
- (8) Understand the pathogenesis, complications and management of osteoporosis
- (9) Name the most common primary malignant tumors of bone.
- (10) Know the pathogenesis of osteoarthritis and appreciate the significance of the pathologic changes in affected joints.
- (11) Understand the pathogenesis of rheumatoid arthritis, the pathologic and functional alterations in the affected joints.
- (12) Be familiar with the types of muscular dystrophy.
- (13) Have a knowledge of the molecular pathogenesis of myasthenia gravis

III. DISEASES OF THE FEMALE GENITAL TRACT:

- (14) Be familiar with the most common sexually transmitted diseases of women and the problems associated with it.
- (15) Realize the significance of human papillomavirus in cervical dysplasia and carcinoma. Appreciate the importance of annual Pap smear screening.
- (16) Have a knowledge of pathologic and functional uterine bleeding.
- (17) Be aware of benign and malignant tumors of the uterus and ovary.

IV. DISEASES OF THE BREAST:

- (18) Have a good grasp of the key difference between nonproliferative and proliferative fibrocystic changes of the breast.
- (19) Be aware of the most common tumor of the breast and the cell from which most breast cancers arise.

V. DISEASES OF THE MALE GENITAL TRACT:

- (20) Be familiar with the most common malignant tumors of the testis.
- (21) Understand the anatomy of the bladder and the prostate critical to the pathologic effect of nodular hyperplasia of the prostate.
- (22) Know the location of prostatic cancer and realize the diagnostic significance of prostatic specific antigen in the diagnosis of prostatic disorders.
- (23) Be aware of the complications of gonococcal infection

VI. DISEASES OF THE ENDOCRINE GLANDS:

- (24) Understand the pathogenesis and clinical features of Graves disease
- (25) Be aware of the most common type of thyroiditis and its pathogenesis and sequence.
- (26) Know the most common type of thyroid cancer.
- (27) Have a good knowledge of the laboratory finding and clinical features of primary hyperparathyroidism and hypoparathyroidism.
- (28) Be familiar with the hormones secreted by the suprarenal cortex and clinical disorders associated with hyper- and hypofunction.
- (29) Realize the clinical significance of pituitary adenomas.

VII. DISEASES OF THE KIDNEY:

- (30) Know the differences between nephrotic and nephritic syndromes
- (31) Be familiar with the most common type of glomerulonephritis.
- (32) Realize the significance of vascular disease of the kidney.
- (33) Understand the risk factors for pyelonephritis and causative organisms.
- (34) Know the two most important malignancies of the kidney
- (35) Be aware of the most common types of urinary stones, predisposing factors and complications.

VIII. DISEASES OF THE GASTROINTESTINAL TRACT:

- (36) Know the pathogenesis and complications of Barrett esophagus
- (37) Realize the significance of Helicobacter pylori infection of the stomach
- (38) Be aware of the etiology of chronic peptic ulceration
- (39) Understand the differences between ulcerative colitis and Crohn disease.
- (40) Have a good grasp of colonic diverticulosis
- (41) Be familiar with the relationship between colonic adenomas and colorectal cancer

IX. DISEASES OF THE LIVER AND BILIARY TRACT:

- (42) Be interested in the most common causes of liver cirrhosis and the main clinical manifestations
- (43) Understand the consequences of portal hypertension
- (44) Be familiar with the mode of transmission and clinical course of hepatitis A, B and C .
- (45) Realize the significance of alcoholic liver disease.
- (46) Be aware of the major categories of gallstones and the risk factors that favor their formation

X. DISEASES OF THE PANCREAS:

- (47) Understand the causes of acute and chronic pancreatitis.
- (48) Be familiar with the clinical presentation and complications of adenocarcinoma of the pancreas.
- (49) Know the pathogenesis of type 1 and type 2 diabetes.
- (50) Be familiar with the complications and causes of death in diabetes.

LEARNING OUTCOMES:

- (1) The student must demonstrate the ability to:
 - Identify the neuromusculoskeletal disorders and their clinical relevance.
 - Explain the bases of endocrine disturbances
 - Describe the disorders of the urogenital system
 - Evaluate the impact of gastrointestinal disorders on health promotion.
- (2) The student should be able to describe the major pathological processes and alterations in the structure and function of organ/systems resulting from various disorders. He/she should demonstrate the ability to utilize this knowledge as the basis for the interpretation of signs, symptoms and laboratory findings toward the generation of differential diagnosis correlating the basic science with clinical reasoning.
- (3) The student should recognize the most common clinical presentations, list the possible cause(s) of each, distinguish between them, solve the clinical problems and reach a sound clinical diagnosis.

CCE Competencies:

The council on Chiropractic Education has set competencies that are required for the graduate of any Doctor of Chiropractic Program. Many of these competencies are indirectly touched on by courses in the Basic Science Department. One example is given below.

Diagnostic studies:

“ Identify the pathophysiologic process responsible for the patient’s clinical presentation, and understand the natural history of the disorder”

Relationship to course content:

The course content will enable the students to integrate clinical findings and diagnostic studies, identify the abnormal structural or functional relationships, recognize and

correlate significant information and integrate the data in a manner that facilitates reaching a proper diagnosis.

Teaching philosophy:

1. To offer easy comprehensive lectures that explain different topics and how they relate to their career as health care providers.
2. To stress the clinicopathological relationship and how they are similar or dissimilar from other pathologies creating a differential diagnosis.
3. To discuss about 200 clinical cases which are intimately related to different topics to bring the knowledge into real life and enhance their clinical competencies.

Student responsibilities:

1. **Student should read the weekly assigned topics from the appropriate chapters of the recommended textbook.**
2. **Active participation in classroom discussions is highly encouraged.**
3. **Students should come to the class in time ready to learn. Side talks during lectures and labs are not tolerated.**
4. **Working on any material other than the class topic is not accepted.**
5. **Interruption of the class by any type of misconduct will subject the student to a penalty. Use of lab tops for anything not related to the topic being discussed in class (e.g. e-mailing, internet, etc.) will subject the students to academic penalty.**
6. **Sleeping in the class is not accepted and is considered as absence.**
7. **If a student leaves the class without excuse, he/she will not be allowed to come back.**

8. **Cellular phones: Electronic communication devices are to be turned off or placed on the silent mode when in classroom. These devices are NOT allowed to be on your person during testing situations. Texting or e-mailing is NOT allowed during class time. Cell phone will be taken if used during class time. There is no first time warning. Failure to comply with these rules will subject students to administrative/academic penalty.**

Modes of instruction:

1. Lectures with PowerPoint presentations.
2. Laboratory case studies to correlate and integrate lecture material with clinical practice.

Assessment of student's achievements:

- Question's format is the multiple-choice question type.
- Lectures exams constitute 82% of the final grade and lab exams constitute 18%.
- Four lecture examinations are scheduled, graded as follows:
 - First Exam = 60 points
 - Second Exam = 60 points
 - Third Exam = 60 points
 - Final Exam = 60 points
- Four Lab Exams = 4 x 15 = 60 points

- Seven quizzes = $7 \times 5 = 35$ points.
- Total points = 335 points (Final grade= student's total points \div 335 \times 100)
- **Neither extra credit points nor curving of the scores are considered in the final grades.**

Grading scale:

- A = 90%-100%
- B = 80%-89%
- C = 70%-79%
- F = below 70%

Attendance Policy:

- (1) Regular and punctual attendance at all scheduled classes and laboratories is expected. A student is subject to academic penalty if absences exceed **10% (10.5 hours)**. Absences exceeding **20% (21 hours)** subject a student to dismissal from a course.
- (2) Three incidences of tardiness may constitute an absence.
If justifiable cause can be shown for the absenteeism, the student may be permitted to maintain enrollment in the class.

Examinations:

- (1) Students are expected to do their own work during exams. **Academic dishonesty will not be tolerated and will result in the student being taken before academic affairs.** Students will be asked to sit every other seat and every other row during exams. All note packs, books, backpacks will be placed in the front of the room. Hats are to be turned back.
No cell phones, pagers or lab tops will be allowed out on the desks.
- (2) **No make-up exams for quizzes**
- (3) **Make-up for lecture exams may be in an essay format**

Make Up Examination Policy: A new policy approved by TCC cabinet on June 9, 2009

3.0 POLICY

- 3.1 Students must notify faculty before missing any examination. If an examination is missed for good and sufficient reason and the student has notified the faculty member in advance, a make-up examination may be given subject to a fee of \$40.00. The fee for the make up examination is a minimum of \$75.00 if a standardized patient is required for the exam. Additional required standardized patient hours may increase this \$75.00 minimum fee. All intra-term examinations must be made up prior to final examinations. Missed final examinations must be made up within the first week of the next trimester. A student may be allowed a maximum of two missed examination dates for good and sufficient reason per trimester. These two missed examination dates are for all enrolled courses in a trimester, not for each individual course. Any request for additional make

up examinations will require documentation substantiating the absence and must be approved by the Dean of Academic Affairs.

5.0 PROCEDURES

- 5.1 The student must notify the instructor that he/she will miss a scheduled examination prior to the administration of the exam.
- 5.2 The student will request a Make Up Examination Request form from the Assessment Center.
- 5.3 The Assessment Center will verify that the student has not exceeded the two allowed missed examination dates before providing the student with the Make Up Examination Request Form. (If the student has exceeded the two allowed missed examination dates, follow procedures 5.11 and 5.12 before proceeding to 5.4)
- 5.4 The student will sign an authorization for the appropriate make up examination fee to be charged to his/her account by the Business Office.
- 5.5 The faculty member will sign the Make Up Examination Request form, verifying that the student is eligible for a make up examination.
- 5.6 The faculty member will provide a make up examination to the Assessment Center prior to the scheduled make up examination date.
- 5.7 The Assessment Center will provide a secure testing environment for the make up examination.
- 5.8 After administration of the make up examination, the Business Office will debit the student's account and credit the student scholarship fund and, if applicable, the standardized patient account for the appropriate amounts.
- 5.9 The Assessment Center will return the completed examination to the faculty member for grading.
- 5.10 If the final examination from the previous trimester is being made up, the faculty member will provide the Registrar's Office with the student's final course grade prior to the end of the add/drop period.
- 5.11 If the student has exceeded the two allowed missed examination dates and is requesting an additional make up examination, the student will submit substantiating documentation to the Dean of Academic Affairs.
- 5.12 Upon submission of the substantiating documentation, the Dean of Academic Affairs will determine if an additional make up examination will be allowed.

Course Withdrawal:

The student completes a withdrawal form in the registrar's office. Withdrawal is allowed through the 40th day of the trimester with a grade "W". Withdrawal after the date will result in a grade of "WF".

Students with disabilities: Refer to Student Handbook

Disclaimer Statement:

The syllabus is a representation of the course content, organization and evaluation procedures. The faculty teaching this course reserves the right to reasonably alter the sequence of activities, evaluation and assignment dates. Every effort will be made to

inform the class members of such changes. Students are responsible to follow the syllabus and any change instituted by the faculty.

COURSE OUTLINE AND EXAMINATION SCHEDULE

Weeks	Topics	Reading Assignments
1	- Introduction to scope of the course - Central Nervous System pathology	Chapter 23
2	- Central Nervous System pathology	Chapter 23
3	- Peripheral Nervous System pathology - Quiz # 1	Chapter 23
4	- Exam # 1 (CNS, PNS pathology; Lecture and Lab exams) - Bone Diseases - Joint Diseases	Chapter 21
5	- Joint Diseases - Quiz # 2 - Disorders of Skeletal Muscles	Chapter 21 Chapter 21
6	- Endocrinopathy - Quiz # 3	Chapter 20
7	- Exam # 2 (Muscle, Bone and Joint pathology, Endocrinopathy; Lecture and Lab exams) - Female Reproductive System pathology - Quiz # 4	Chapter 19
8	- Male Reproductive System Pathology - Quiz # 5	Chapter 18
9	- Urinary System Pathology	Chapter 14
10	- Urinary System Pathology - Quiz # 6 - Exam # 3 (Female and Male reproductive systems and Urinary system pathology; Lecture and Lab exams)	Chapter 14
11	- Gastro-intestinal Pathology (Oral cavity, Esophagus, Stomach)	Chapter 15
12	- Gastro-intestinal Pathology (Stomach, Intestines, Liver)	Chapters 15 & 16
13	- Quiz # 7 - Hepato-biliary and Pancreatic pathology - Breast pathology - Review	Chapters 16 & 17 Chapter 19
14 & 15	- Final Exam (Gastro-intestinal, Hepato-biliary, Pancreatic and Breast pathology, Lecture and Lab exams)	

Student Honor Code

Student Name: _____

Course: Pathology: Systems I

I have read Texas Chiropractic College's policy on Academic Dishonesty as published in the 2006-2008 Student Handbook pages 47-48, understand its provisions, and pledge my honor that I will not violate it.

Printed Name

Signature

Date