

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

**Course Title:** Systems Pathology II

**Course number:** PA 4330

**Trimester:** Spring, 2012

**Credit hours:** 3 credits (45 hours)

**Course meeting time:**

Total Lecture Hours: 45 (3 hours/week):

- Tuesday: 12:00-12:54, I-104
- Thursday: 11:00-11:54, I-104
- Friday: 1:00- 1:54, I-104

**Instructor:**

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

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

**Office location:** # 323 Iwama Building

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**Edvance 360 address:** [edvance360.com/txchiro](http://edvance360.com/txchiro)

**Holidays:**

- Monday, January 16 - Martin Luther King Jr. Day
- Monday, February 20 - President's Day
- Student Spring Break, March 12-16
- Friday, April 6 - Good Friday

**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: A hard copy of the lecture notes is 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 presents the pathologies of hematopoietic, vascular, cardiac, and respiratory 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 PREREQUISITES:** Systems Pathology 1, Endocrine and Neurophysiology.

**COURSE OBJECTIVES:**

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

**I. DISEASES OF THE HEART:**

- (1) Be familiar with the etiology of congestive heart failure and understand the clinical findings of right and left-side heart failure.
- (2) Be aware of the syndromes of ischemic heart disease
- (3) Know the complications of myocardial infarct. Appreciate the usefulness of cardiac troponin and creatine kinase assays in the assessment of chest pain
- (4) Understand the pathogenesis of acute rheumatic fever and rheumatic heart disease.
- (5) Know the hemodynamic changes that result from mitral stenosis and mitral regurge.
- (6) Be aware of the effect of chronic hypertension on the heart and blood vessels.
- (7) Identify the causes, pathological lesions and complications of acute and subacute bacterial endocarditis
- (8) Know the types of cardiomyopathy and their pathogenesis.
- (9) Realize the significance of congenital heart diseases, their impact on blood flow and cardiac chambers.
- (10) Be familiar with the causes and types of pericarditis.

**II. DISEASE OF THE BLOOD VESSELS:**

- (11) Understand the pathological processes important in the formation of an atheroma.
- (12) Be aware of the most important complications of atherosclerosis.
- (13) Hypertensive vascular diseases.
- (14) Know the causes of most aneurysms.
- (15) Be familiar with the etiology of vasculitis, realize the involved blood vessels and the clinical significance of each type.
- (16) Have a knowledge of the clinical importance of thrombophlebitis.
- (17) Understand benign and malignant tumors of blood vessels and lymphatics

### **III. DISEASES OF BLOOD CELLS AND BLEEDING DISORDERS:**

- (18) Understand the blood indices and how to calculate them.
- (19) Be aware of the classification and manifestations of anemias.
- (20) Know the hemorrhagic and hemolytic anemias (sickle cell anemia, malaria, spherocytosis and thalassemias), realize the cause, clinical and laboratory findings.
- (21) Be aware of iron deficiency anemia.
- (22) Have knowledge of anemia due to deficiency of vitamin B12/folic acid.
- (23) Be interested in the major types of lymphomas and leukemias, understand the qualitative and quantitative changes in the peripheral blood.
- (24) Know the types of Hodgkin lymphoma according to the microscopic pattern and the stages of the disease.
- (25) Appreciate the elements of normal hemostasis.
- (26) Understand bleeding due to platelet disorders/deficiency of coagulation factors.

### **IV. DISEASES OF THE RESPIRATORY SYSTEM:**

- (27) Know the types of atelectasis.
- (28) Be familiar with the types of asthma, realize the underlying pathogenesis and the pathological lesions.
- (29) Be aware of the main categories of chronic obstructive and restrictive lung diseases and their pathogenesis
- (30) Understand the types of emphysema and the role of smoking.
- (31) Have a good grasp of the role of smoking in respiratory diseases.
- (32) Realize the consequences of pulmonary thromboembolism.
- (33) Be familiar with the two main anatomic varieties of pneumonia “community-acquired acute pneumonia” and “community-acquired atypical pneumonia”.
- (34) Have knowledge of the etiology, pathological lesions and clinical features of lung abscess and bronchiectasis.
- (35) Be aware of lung lesion in primary TB and how it differs from secondary TB.
- (36) Know the classification, risk factors and prevalence of bronchial carcinoma.
- (37) Recognize diseases of pleura, causes and clinical manifestations.

### **LEARNING OUTCOMES:**

- (1) The student must demonstrate ability to:
  - List the types of anemias and the associated morphological changes.
  - Distinguish the qualitative and quantitative disorders of WBCs.
  - Explain the different mechanisms of bleeding disorders.
  - Describe the diseases of the cardiovascular system.
  - Identify the upper and lower respiratory tract diseases.
- (2) The student should be able to describe the etiology, pathogenesis and histological changes that occur in any organ/system during the disease state. He/she should be able to interpret the clinical course and the possible outcomes of the different diseases.
- (3) The student should demonstrate the ability to assimilate and synthesize the information presented in this course to acquire enough knowledge for clinically-based practice.

**CCE/TCC 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.

**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.

**Please note: due to past abuse of privilege, all computers are banned from lectures.**

**Modes of instruction:** Lectures with PowerPoint presentations.

**Assessment of student's achievements:**

- Questions format is the multiple-choice question type.
- Four lecture examinations are scheduled, graded as follows:
  - First Midterm Exam = 50 points
  - Second Midterm Exam = 50 points
  - Third Midterm Exam = 50 points
  - Final Exam = 50 points
- Quizzes = 20 points.
- Total points =220 points  
(Final grade= student's total points ÷220 x 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 is expected. A student is subject to academic penalty if absences exceed **10% (4.5 hours)**. Absences exceeding **20% (9 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 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 will be in an essay format

## **Make-Up Examination Procedures**

### **TCC Policy Highlights**

1. Students must notify faculty before missing any examination
2. 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. (\$75.00 minimum for standardized patient exams)
3. All intra-term examinations must be made up prior to final examinations.
4. A student may be allowed a maximum of two missed examination dates for good and sufficient reason per trimester. (all classes combined)
5. Course assignments and examinations must be completed prior to the final examination in that course.

### **Assessment Center Operational Procedures**

Requests for a make-up examination must follow the following procedures:

Step 1: Students must obtain a make-up examination request form from the assessment center.

Step 2: Student must have the form signed by the faculty member for approval of the examination.

Step 3: The faculty member must return the form along with the examination to the assessment center.

Step 4: The student must schedule the examination with the assessment center.

Step 5: The exam will be administered and the faculty must pick up the examination when completed.

The assessment center will:

1. Provide safe storage of the examination both before and after examination administration.
2. Place students in a secure and isolated environment during the examination.
3. Monitor students via direct observation and closed-circuit video feed.
4. Video record test sessions only when requested and store video for one week.
5. Not allow a make-up exam to be rescheduled (once it has been scheduled) without consent of the faculty member.
6. Not schedule a make-up exam beyond 10 working days of the missed exam without faculty consent.
7. Notify the faculty member (via email) once an exam has been scheduled and once the exam is completed.

**Accommodations:**

Students that have been identified as needing examination accommodations by the Student Services Department can be tested in the assessment center. We receive all of the special needs as well for these students and aware of their situations. In order to accommodate them the following must happen:

1. The Assessment Center must be notified in advance (24 hours minimum) of a scheduled exam in which accommodations are necessary.
2. The student must confirm an appointment in the Assessment Center prior to the exam.
3. The exam must be delivered by the faculty to the assessment center in advance the actual exam time.

**Course Withdrawal:**

The student completes a withdrawal form in the registrar's office. Withdrawal is allowed through the 40<sup>th</sup> 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 to benefit students.

## COURSE OUTLINE AND EXAMINATION SCHEDULE

Weeks	Topics	Reading Assignments
1	- Introduction to scope of the course - Diseases of Blood Vessels: Arteriosclerosis, Hypertensive vascular disease	Chapter 10
2	- Diseases of Blood Vessels: Aneurysms, Vasculitis, Tumors	Chapter 10
3	- <b>Exam # 1</b> (Diseases of blood vessels, Lecture exam) - Cardiac Pathology: Heart failure & Coronary artery disease	Chapter 11
4	- Cardiac Pathology: Coronary artery disease (angina, myocardial infarction) and rheumatic and valvular heart diseases	Chapter 11
5	- Cardiac Pathology: Hypertensive heart disease, - Endocarditis , Cardiomyopathy, Congenital Heart diseases - Diseases of the Pericardium	Chapter 11
6	- <b>Exam # 2</b> (Cardiac Pathology, Lecture exam) - RBC disorders: Hemorrhagic and Hemolytic anemias	Chapter 12
7	- RBC disorders: Iron deficiency anemia, Megaloblastic and Aplastic anemias	Chapter 12
8	- WBC disorders: Lymphoma	Chapter 12
9	- WBC disorders: Lymphomas and Leukemias	Chapter 12
10	- Bleeding disorders	Chapter 12
11	- <b>Exam #3:</b> (Diseases of Hematopoietic and Lymphoid systems, Lecture exam) - Pulmonary Pathology: Atelectasis , Obstructive and Restrictive lung diseases	Chapter 13
12	- Pulmonary Pathology: Infections (Pneumonias, TB, Lung abscess).	Chapter 13
13	- Pulmonary Pathology: Vascular lung diseases Tumors of lung Diseases of pleura, Disease of upper respiratory tract  - Review	Chapter 13
14 & 15	- <b>Final Exam</b> (Pulmonary pathology, Lecture exam)	

**N.B.: Quizzes' dates TBA**

## Student Honor Code

**Student Name:** \_\_\_\_\_

**Course: Pathology: Systems II**

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