

DEN6350 General Pathology

Summer 2021

Course Description:

General Pathology is a course that concerns the cause and the manifestations of diseases that affect the human body of relevance to dentistry.

I. General Information

Course Director:

Course Director:	Ashwin S. Akki	a.akki@ufl.edu
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Office:	(352) 594-0488	
Course Credits:	4	
Semester:	Summer	

Contributing Faculty

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Support Staff

II. Course Goals

The purpose of this course is to provide a general understanding of human pathology with particular emphasis on those conditions relevant to general health including dentistry. The course will provide the student of dentistry with the language of medicine and an understanding of disease processes necessary to communicate effectively with medical colleagues and patients.

III. Course Overview

General Pathology is predominantly a lecture-based course that concerns the cause and the manifestations of diseases that affect the human body. The subject will be taught from the perspective of pathology, emphasizing basic processes involved in disease causation as well as the morphological and functional changes that characterize key diseases that affect specific organ systems. Four elective sessions (one before each exam) are included in the course where students can practice their problem-solving skills solving questions provided by the course director. After students attempt to answer the questions on their own, a general discussion is held where the course director or other faculty member explains the answers to the questions.

The course is organized into two sections: General Pathology (block 1) and Systemic Pathology (blocks 2-4).

1] General Pathology focuses on basic mechanisms of disease causation, as well as those pathologic processes that are common to most tissues of the body. Diseases that affect specific organ systems will be used as illustrations, but the processes studied are general and not restricted to a particular region. Three key areas will be covered:

- i] Inflammation and repair (including cellular injury, adaptation, cell death (apoptosis or necrosis), acute and chronic inflammation, repair and systemic disorders).
- ii] Cancer biology (including etiology, pathogenesis, diagnosis and genetics).
- iii] Genetic disorders and mechanisms (including single gene, multigene, chromosomal derangements and dysmorphology nomenclature).

2] Systemic Pathology concerns the study of specific diseases that affect a given organ system: such as heart, liver or kidney. In this part of the course, the intent is to provide a general understanding of those diseases about which the dentist should be familiar. It is not the intent to provide material at the depth required for the practice of medicine.

IV. Course Outline

Course Outline (Note: Because of faculty availability, all lectures in a particular subject may be interspersed with other subjects)

GENERAL PATHOLOGY

Inflammation and Repair

Cellular Stress and Adaptation - L1

Cellular Injury - L2

Cell Death - L3

Acute Inflammation: Description - L4

Acute Inflammation: Cellular and Molecular Events - L5

Phagocytes - L6

Wound Repair and Chronic Inflammation - L7

Thrombosis, Embolism, Infarction - L8

Cancer biology

Causes of Cancer – L9

Cancer Biology - L10

Cancer Diagnosis – L11

Cancer Genetics – L12

Genetic disorders and mechanisms

Genetic Disease I – L13

Genetic Disease II - L14

(Exam 1: covers 14 lectures and will be 56 questions)

SYSTEMIC PATHOLOGY

Cardiovascular Pathology

Valvular Heart Disease - L15

Endocarditis – L16

Arteriosclerosis – L17

Ischemic Heart Disease - L18

Heart failure – L19

Endocrine, Metabolic and Bone Pathology

Pituitary and Adrenal Disorders - L20

Thyroid and Parathyroid Disorders - L21

Metabolic Bone Diseases - L22

(Exam 2: covers 8 lectures and will be approximately 32 questions)

Arthritis – L23

Respiratory Tract Disease

Lung/Nasopharyngeal Cancer - L24

Obstructive Pulmonary Diseases - L25

Restrictive Pulmonary Diseases - L26

Hemorrhagic and Vascular Lung Diseases – L27

Pulmonary Infection – L28

Reproductive Cancers

Breast and Prostate Pathology - L29

Female Reproductive Tract Cancers - L30

Gastrointestinal Pathology

Colon Cancer and Pancreatic Disease – L31

Esophagus/Stomach Disorders – L32

Liver Diseases - L33

Inflammatory Bowel Disease – L34

Renal Pathology

Renal Pathology: Glomerular/Tubular Diseases - L35

Renal Pathology: Glomerular/Tubular Diseases - L36

(Exam 3: covers 14 lectures and will be approximately 56 questions)

Hematopathology/Immunopathology

Myeloma, MPD, and MDS - L37

Anemias – L38

Immunodeficiency – L39

Clinical Transplantation – L40

SLE and other Systemic Autoimmune Diseases - L41

Hemostasis- L42

Thrombophilia – L43

HIV/AIDS - L44

Acute Leukemia – L45

Malignant Lymphoma – L46

Endocrine, Metabolic and Bone Pathology

Diabetes Mellitus - L47

Dermatopathology

Intro to Dermatopathology & Melanocytic Neoplasms – L48

Non-melanocytic Neoplasms-L49

Inflammatory Skin Diseases- L50

Neuropathology

Pathology of the Nervous System I – L51

Pathology of the Nervous System II- L52

(Exam 4: covers 16 lectures and will be approximately 64 questions)

V. Course Material

By Vinay Kumar, MBBS, MD, FRCPath, Abul K. Abbas, MBBS and Jon C. Aster, MD, PhD:
Robbins Basic Pathology; 10th ed, Elsevier, 2018

NOTE: There are no formal reading assignments. All lecture material will be posted online (in the documents section) prior to the day of the lecture. Students are encouraged to read around the topics presented in lecture. Certainly the textbook can add depth and breadth of knowledge if the student is so inclined. As well, the textbook can provide another “voice” explaining complex and/or difficult concepts.

Optional resource:

[HSC Dental Library Guide](#)

VI. Course Objectives

I. Learning Experiences/Objectives Course Instruction will be accomplished through direct instruction (lectures). Through the designed learning experiences, the student will be able to:

A. General Pathology

1. Describe the biologic principles that govern changes in cells and tissues to abnormal stimuli and be able to recognize salient features of injured and dying cells differentiating necrosis and apoptosis.
2. Describe how the body reacts to injury and through the inflammatory process and how the body repairs itself.
3. Demonstrate knowledge of the etiology, pathogenesis, structural and functional manifestations of cancer.
4. Solve problems involving genetics and inheritance recognizing sporadic mutations, monogenic (Mendelian) and polygenic (non-Mendelian) disorders.
5. Develop a vocabulary to communicate this knowledge to others.

B. Systemic Pathology

1. Describe the etiology, pathogenesis, structural and functional manifestations of diseases that affect specific organ systems of the body and the ability to place specific diseases in context with their clinical presentation, prevalence, morbidity and mortality in society as a whole.
2. Develop a vocabulary with which to communicate this knowledge to others.

In addition, students are expected to demonstrate respect for others and appropriate truthfulness and honesty consistent with standards of professional behavior. **The faculty expect students to be on time for lecture.** Talking in class is disruptive (unless the student is asking a question of the teacher) and is strictly prohibited.

Note: Detailed learning objectives are provided at the beginning of each section of the course

VII. Course Competencies

This course contributes to teaching to the following competencies.

- **Domain II:** Health Promotion and Maintenance - Educate patients and the community, based upon scientific inquiry, critical thinking and outcomes assessments, about the etiology of oral disease. Promote preventive interventions and effectively work with patients and other health care professionals to achieve and maintain a state of optimal oral health through evidence-based care.
 - **4.Critical Thinking:** Apply self-assessment, evidence-based decision making, problem solving skills and biomedical science knowledge in clinical patient care.

VIII. Evaluation

Methods by which Students will be Evaluated:

There will be four examinations during the course. Each examination will contain multiple-choice questions in the format used by the National Boards.

1. **Testing Center Policies & Procedures:**

<http://dental.ufl.edu/education/dmd-program/examssoft-procedures/>

2. **Protected Examinations:**

There are two reasons why the examinations are protected. (1) Good questions that require integration or problem solving are difficult to write. When they are successful in this venture, they should be used again. (2) If students have all the previous exams, questions tend to

become more and more trivial. For this reason, students are not allowed to copy exam questions or to remove questions or answers from the examination room.

3. Policy for Missed Examinations:

Students must contact the Course Director's Office immediately to notify them as soon as possible of the missed exam. It is the student's responsibility to schedule a make-up exam with the Course Director within 48 hours of their return to the college. Students who do not have an excused absence from an examination are, at the discretion of the Course Director, subject to any or all of the following: (1) An "E" grade or a "0" for the examination missed, or (2) Arrange a make-up examination which may be cumulative in composition. The make-up examination or failing grade given will be assigned the same value (graded weight) as the original examination.

Assigning Grades:

1. **Formative feedback:** The department reviews the examinations as rapidly as possible, usually within 2 working days, and then the grades will be available on Canvas. Students will be able to review their examination (i.e., the questions that they answered incorrectly) at the completion of the exam. Release of each individual exam score will only happen after 50% or more of the class have completed the faculty evaluations that are open at each block examination time.
2. **Summative Feedback or Final Grade:** The final score for the course examinations will be calculated as a cumulative score for all exams using as the numerator all questions answered correctly and the denominator all questions asked. The final grade will be assigned according to the grade range A through E given below. We reserve the right to lower this range if, for unforeseen reasons, the examinations are considerably more difficult than in previous years. To successfully complete the course, a student must pass at least two of the four examinations and achieve a cumulative score of 72% or greater. Passing level for the individual course examinations is defined as 72% or greater. A course evaluation is done at the end of the course.
3. **Exam Follow Up:** Students who fail an examination are expected to meet with the course director within 5 working days of the release of their scores. Students can e-mail Dr. Akki for an appointment at: krs2@ufl.edu. This is not a punitive meeting. This meeting will be aimed at uncovering the reasons for the student's failure so that future exams will be passed.
4. **Remediation:** Students who fail the course (i.e., they achieve a cumulative score of less than 72%, or they fail more than 2 of the 4 exams) must remediate the course or repeat the course. The Course Director will decide whether the student is allowed to remediate by examination or whether the student is referred to SPEC with a recommendation to retake the course. If remediation is allowed by examination, the student will take a newly written remediation examination covering the material in the block that was not passed

by the student. If more than 1 block requires remediation, the student may elect to take a separate remediation exam for each block. However, the student will not be advised of their overall remediation score until all remediation block exams have been taken (i.e., passing a remediation exam is the same whether one block is remediated or multiple blocks are remediated: the cumulative score on the remediation exam must be 72% or greater). If the student remediates by examination, the highest grade that can be earned after remediation is a grade of D.

Student Evaluation of Instruction:

“Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://ufl.bluera.com/ufl/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.”

IX. Administrative Practices

Administrative practices for all UFCD courses are universally applied. Exceptions to or deviations from these practices are stated in the individual syllabi by the course director. When not individually stated in the syllabus, course administrative practices default to those identified under "Course Policies" on the DMD Student Website:

<https://dental.ufl.edu/education/dmd-program/course-policies/>

X. Grade Scale

DEN6350 Grade Scale

Method	Letter Grade
Scale	100
Tolerance	0.5 (Final letter grades within this range will be rounded up.)
A	90 - 100
B	82 - 90

C 72 - 82

E 0 - 72