COURSE: GENERAL PATHOLOGY

PATHOLOGY I

CLASS: MDIII

SEMESTER: Summer 2015

COORDINATOR: Danil Hammoudi.MD
Associate professor pathology

Email: sinoemedical@comcast.net

Website: http://sinoemedicalassociation.org/pathologylectures/

Office hours: Everyday outside lectures time.

Course Schedule

Monday to Friday: 1pm to 3 pm
Tuesday: 3-5 pm
COURSE DESCRIPTION:

Pathology is the study of structural and functional abnormalities that are expressed as diseases of organs and systems. Traditionally, the discipline is divided into general pathology and systemic pathology; the former focuses on the fundamental cellular and tissue responses to pathologic stimuli, while the latter examines the particular responses of specialized organs.

Knowledge & understanding of pathology is essential for all doctors as this subject forms the bridge preclinical sciences & clinical subjects and it involves the investigation of the causes (etiology) of disease as well as the underlying mechanisms (pathogenesis) that result in the presenting signs and symptoms of the patient.

In MED III & IV the pathological basis of all diseases is thought which will help student in rational treatment of patients.

COURSE OBJECTIVES:

By the end of the course, the medical student will be able to:

B. Knowledge (theory)

1. Understand the concepts of cell injury & changes produced thereby in different tissues & organs & the body’s capacity for healing
2. Understand the normal homeostatic mechanisms, the derangement of these mechanisms & the effects on human systems.
3. Understand the etiopathogenesis, the pathological effects & clinic-pathological correlation of common infectious & non-infectious diseases.
4. Understand the concept of neoplasia with reference to etiology, gross & microscopic features, diagnosis & prognosis in different tissues & organs of the body.
5. Have knowledge of common immunological disorders & their resultant effect on the human body.
6. Correlate normal & altered morphology (gross & microscopy) of different organ systems in different diseases to the extent needed for understanding of diseases processes & their clinical significance.
7. Have knowledge of common immunological disorders & their resultant effect on the human body.
8. Have a good understanding of the common hematological disorders & the various investigations necessary to diagnose them & various factors determine the prognosis.
9. Know the principles of collection, handling & dispatch of clinical samples from patients in a proper manner.
10. Perform & interpret in a proper manner the basic clinical pathology procedures.
11. Understand different types of bio-medical waste, their potential risks & their management

B. Skill (Practical in pathology)
1. be conversant with the organization & functioning of the laboratories & should be aware of the safety precautions to be taken in the laboratories.
2. have knowledge of sample collection & methods of processing of samples & common histological techniques including H & E staining.
3. have knowledge of application & significance of frozen section.
4. identify as spotters the common histopathological, hematological & cytological slides & specimens & charts & their interpretations.
5. The students should be able to correlate the history & identify common histopathological & hematological slides & discuss the relevant diagnosis
6. Students should be conversant & be interpret the routine laboratory investigations.

C/ INTENDED LEARNING OUTCOMES
Knowledge:
1. Knowledge and understanding of the principles of Evidence Based Medicine.
2. Knowledge and understanding of the normal structure, function and development of the human body and mind at all stages of life. Knowledge and understanding of the genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic noxious effects on the body and mind.

3. Knowledge and understanding of the etiology, pathology, signs and symptoms, natural history, and prognosis of common mental and physical disorders in all age groups listed in the appendix and designed as “common”.

4. Knowledge and understanding of common diagnostic procedures, indications, contraindications and limitations. Knowledge of the appropriate use of laboratory techniques, hygiene and sanitization, asepsis, infection control and transmission.

5. Knowledge and understanding of the principles of health maintenance, education, prevention and screening. Knowledge and understanding of the epidemiology of common diseases and conditions and systematic approaches in reducing the incidence and prevalence of those diseases.

6. Knowledge and understanding of molecular, biochemical, and cellular mechanisms of Knowledge and understanding of the clinical presentation of the common diseases and conditions as well as immediately life-threatening injuries, cardiac, pulmonary, or neurological conditions regardless of etiology, and appropriate initial treatment.

7. Knowledge and understanding of the most frequent clinical, laboratory, roentgenologic, and pathologic manifestations of common diseases.

8. Knowledge and understanding of the need and value of consultations and referrals.


**skills**

1. The ability to formulate an appropriate differential diagnosis. The ability to interpret and integrate the history and physical examination findings to arrive at an appropriate diagnosis or differential diagnosis.

2. The ability to formulate effective management plans (diagnostic, treatment, and prevention strategies) for diseases and other health problems. The ability to select the most appropriate and cost-effective diagnostic procedures.
3. The ability to perform routine technical procedures specific to the medical specialty. Perform practical exercises that entail accurate observation of biomedical phenomenon and critical analyses of data.

4. The ability to apply Evidence Based Medicine principles to clinical decision making.

5. The ability to critically appraise the medical literature.

**D. Behavior (attitude)**

1. The ability to seek help, when needed, to deal with academic, personal, or interpersonal problems.
2. The ability to consistently and dependably carry out one's duties with honesty, personal integrity, self-motivation, and self-discipline. A willingness to monitor the behavior and competence of professional peers and to deal appropriately with inadequate or unethical behavior, evidence of impairment, unprofessional practices, or conflict of interest.
3. Recognize the need to engage in lifelong learning and the commitment to engage in lifelong learning in order to maintain sufficient familiarity with scientific advances to ensure they are integrated appropriately with patient care.
4. understand ethical practices
5. The ability to recognize personal educational needs, to select and utilize appropriate learning resources, apply principles of evidence based medicine, the capacity to recognize and accept limitations in one’s knowledge and clinical skills, and a commitment to continuously improve one’s knowledge and ability.
6. The ability to demonstrate personal responsibility, reliability, dependability, open-mindedness, and curiosity.
7. Effective communication skills: besides English language proficiency, to demonstrate the capability to utilize verbal and non-verbal communication specific to culture, gender, and patient understanding.
8. At the end of the semester the student should be able to -utilize the services of a clinical laboratory in the diagnosis and management of a clinical case.
9. Do correct interpretation of laboratory investigation in the differential diagnosis
10. Should be able to understand a laboratory report and explain it to the patient.

11. Be able to understand ethical practices.

12. Be able to understand the procedures like PAP smear which is used for screening to prevent cancer.

13. Be able to utilize blood bank services its ethical aspects, pros and cons of transfusion.

**STUDENT PERFORMANCE**

**Classroom behavior:**

Students are expected to comport themselves with dignity and respect for others (classmates and faculty). Demeanor in this class must follow the institution’s honor code and policies regarding cheating, plagiarism, and other misconduct (see Student Handbook). Infractions by students will be addressed appropriately in accordance with institutional policies.

**Attendance:**

Students must attend all lectures on a regular basis. Anyone with less than 80% attendance will lose 20% on a Final exam for a first transgression and not be allowed to take the final exam (i.e., receive a grade of zero) on a subsequent infraction. Details and a fuller explanation of the institutional policies regarding attendance can be found in the Student Handbook.

Any student that miss class without justification or notes or email will have subtracted point on the pathology test.

Any one that come late in class will not be allowed unless good reason.

During class no students are allowed to leave the class, bathroom brakes are during the class brake unless medical condition required the student to go very often [Pregnancy, urinary infection].

During the test no bathroom brake is allowed until the end of the test no matter how long the test is.

**Policy on the Use of Electronics:**

Moodle is the mechanism for electronic communication between the faculty and students.

a) This includes professors posting assignments, announcements and information pertinent to the course (e.g., Powerpoint presentations, teaching aids, grades, etc.). Powerpoint slides for an upcoming lecture will be posted for student access prior to that presentation. These Powerpoint files are for the exclusive use of the students as a complement to the course and the information described in the book. That is, they are not for posting or distribution.

b) Students will use Moodle to submit assignments and can use it to submit questions to the faculty. This is by no means the sole basis for student-faculty interactions. Indeed, faculty members encourage students to talk with them in their office either in an in prompt or scheduled
manner. Faculty have posted office hours.
c) Out of respect for each other and the professors, students may not communicate electronically during class with classmates, others, or the media without the explicit permission of the instructor. **Furthermore, students may not record any part of the lecture or other proceedings without the explicit permission of the instructor.** This includes audio and video recordings and photographs. If a student breaks any of these policies, his/her equipment may be confiscated for the remainder of the class, the block, or the semester and more severe disciplinary action may be taken.
d) **No electronic will be allowed for playing games, texting, facebooking, twitting, shopping or any related.** Your computer, tablets and tabloids are only allow to follow the lecture or to look for answers. **Any student found playing games, texting, facebooking, twitting, shopping or any related will be expelled from the course without discussion.**
e) **Any students found cheating on the test will be excused without any discussion, have a nice life.**
## SUMMARY OF COURSE CONTENTS:

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<thead>
<tr>
<th>NO</th>
<th>CHAPTER</th>
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<tbody>
<tr>
<td>1</td>
<td>CELL INJURY AND CELL DEATH, CELLULAR ADAPTATIONS</td>
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<tr>
<td>2</td>
<td>INFLAMMATION</td>
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<td>3</td>
<td>TISSUE RENEWAL, REPAIR and REGENERATION</td>
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<td>4</td>
<td>HEMODYNAMICS, SHOCK</td>
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<td>5</td>
<td>ENVIRONMENTAL AND NUTRITIONAL DISEASES</td>
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<td>6</td>
<td>GENETIC DISORDERS</td>
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<td>7</td>
<td>IMMUNOPATHOLOGY</td>
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<td>8</td>
<td>NEOPLASIA</td>
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<tr>
<td>9</td>
<td>DISEASES OF INFANCY AND CHILDHOOD</td>
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<tr>
<td>10</td>
<td>HEMATOPOIETIC AND LYMPHOID SYSTEM</td>
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## DETAILS OF COURSE CONTENTS:

### 1. CELL INJURY AND CELL DEATH

- a. Definitions
- b. Causes of cell injury
- c. Mechanisms of cell injury
- d. Necrosis
- e. Apoptosis
- f. Sub cellular alterations in cell injury
- g. Intracellular accumulations
- h. Pathologic calcification
- i. Hyaline change
- j. Cellular aging
- k. Adaptations
- l. Atrophy
- m. Hypertrophy
- n. Hyperplasia
- o. Metaplasia

### 2. INFLAMMATION

- a. Definitions
- b. Types of inflammation
- c. Acute inflammation
- d. Chronic inflammation

### 3. REGENERATION
a. Control of normal Cell Proliferation and Tissue Growth
b. Stem Cells
c. Cell Cycle
d. Mechanisms of Cell Growth
e. Mechanisms of Tissue regeneration
f. ECM
g. Healing by Repair, Scar formation and Fibrosis

4. HEMODYNAMICS

a. Edema
b. Hyperemia, congestion, hemorrhage
c. Hemostasis
d. Thrombosis
e. Embolism
f. Infarction
g. Shock

5. GENETIC DISORDERS

a. Definitions
b. Mutations
c. Mendelian disorders
d. Multifactorial inheritance
e. Chromosomal abnormalities

6. DISEASES OF IMMUNITY

a. Defense mechanisms
b. Types of immunity
c. Cells of immunity
d. Cytokines and functions
e. HLA
f. Hypersensitivity
g. Transplant rejections
h. Autoimmune disorders
i. Immunodeficiency
j. Amyloidosis

7. NEOPLASIA
a. Definitions
b. Components of tumors
c. Naming of tumors
d. Classification of tumors
e. Characteristics of benign and malignant tumors
f. Metastasis
g. Cancer epidemiology
h. Carcinogenesis
i. Cancer etiology
j. Clinical aspects of neoplasia

8. INFECTIOUS DISEASES

a. general principles of microbial pathogenesis
b. New and Emerging Infectious Diseases
c. Immune Evasion by Microbes
d. Viral Infections
e. Bacterial Infections

9. ENVIRONMENTAL DISORDERS and NUTRITIONAL DISORDERS

a. Protein Energy Malnutrition
b. Vitamin deficiencies
c. Obesity
d. Physical injuries
e. Radiation injuries
f. Personal exposures
g. Chemical injuries

10. DISEASES OF INFANCY AND CHILDHOOD

a. Causes of death in infancy and childhood
b. Birth weight and gestational age
c. IUGR
d. Congenital anomalies
e. Respiratory Distress Syndrome
f. Erythroblastosis fetalis
g. Inborn errors of metabolism
h. Cystic fibrosis
i. Sudden Infant Death Syndrome
j. Tumors

11. HEMATOPOIETIC AND LYMPHOID SYSTEM

a. Development & Maintenance of Hematopoietic Tissues

b. Disorders of White Cells
   i. Leukopenia
   ii. Reactive (Inflammatory) proliferations of white cells
   iii. Neoplastic proliferation of white cells

c. Spleen
   i. Splenomegaly
   ii. Neoplasms
   iii. Congenital anomalies
   iv. Rupture

d. Thymus
   i. Developmental disorders
   ii. Thymic hyperplasia
   iii. Thymomas

e. Anemias

f. Polycytemia

g. Bleeding disorders, Hemorrhagic diathesis
TEACHING LEARNING METHODS:

The teaching learning activities during the pathology course will be carried out through:

1. Lectures
2. Practicals
3. Tutorials
4. Case based team work
5. Integrated teaching
6. Self directed learning

ASSESSMENT:

The assessment format consists of 5 main sections:

1. Attendance: Students must attend all lectures on a regular basis. Minimum of 80% attendance for every month is mandatory. Any student falling short of 80% attendance will not be allowed to take the exam.
2. Assignment
3. Practical
4. Quiz
5. Exam

Marks distribution of all assessment:

<table>
<thead>
<tr>
<th>ASSESSMENT WEIGHTAGE</th>
<th>%</th>
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<tbody>
<tr>
<td>Quiz</td>
<td>10</td>
</tr>
<tr>
<td>Midterm</td>
<td>30</td>
</tr>
<tr>
<td>Final Exam</td>
<td>60</td>
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<tr>
<td>TOTAL</td>
<td>100</td>
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The % may be subject to a change and will be announced if it is the case.

- Each quiz is a 50 question exam, for 1 h.
• One to Two quizzes will be giving during each bloc, unless stipulate otherwise by the instructor.
• Each quiz will include the course material but not limited to question of clinical Anatomy, biochemistry, physiology, genetics, neuroanatomical, pharmacology, and embryology. These questions can giving as a pathological scenario or individual question.
• Question are not limited, QMC, and clinical cases.
• The midterm exam is a 50 -60 question including pictures part, qmc and clinical cases to resolve.
• Each group will presenting a case, approved by the instructor, and this presentation will be graded and part of the assignments.
• Presentation will count at 10% credit at the end of the semester.
• Presentation will be graded on a group behavior, how well the presentation is done, individual grading, how well you answered the question, how interactive the presentation is with the class.

GRADING:

• Grades will be based on the total assessment mark
• Final grade will be an aggregate of all the four exams & courseworks
• The grading scale is as follows:

<table>
<thead>
<tr>
<th>SCORE</th>
<th>GRADE</th>
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<tbody>
<tr>
<td>&lt; 60%</td>
<td>FAIL (F)</td>
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<td>60-70%</td>
<td>D PASSING</td>
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<tr>
<td>70-80%</td>
<td>C</td>
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<tr>
<td>80-89%</td>
<td>B</td>
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<tr>
<td>90-100%</td>
<td>A</td>
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EXAMINATION SCHEDULE:

a) PATTERN:

<table>
<thead>
<tr>
<th>TYPE OF QUESTIONS</th>
<th>MULTIPLE CHOICE (MCQs &amp; BAQs)</th>
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<tbody>
<tr>
<td>NO OF QUESTIONS</td>
<td>50 -60</td>
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<tr>
<td>DURATION</td>
<td>1 HOUR</td>
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b) CHAPTERS:

| Midterm exam | 1,2,3 |

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4,5,9

| Final exam | All chapters |

**Note:**
1. For the bloc 4 exam chapter 6,8,11 will be given as a quiz
2. Bloc 4 exam will be a cumulative exam.
3. A cumulative practical lab exam will be given with 50 question of picture diagnosis.
4. Chapter order might be change, and will be announced.
5. Next lecture title will always be announce at the end of each lecture.

**c) EXAM DATES:**

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<tbody>
<tr>
<td>Midterm</td>
<td>June 22-25</td>
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<tr>
<td>Final exam</td>
<td>August 10-13</td>
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<tr>
<td>RETAKE EXAM</td>
<td>September 7-11</td>
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</table>

The overall final passing grade is set at 60%, lower than that the student will need to take a retake exam, with 60% average passing.
The content of the exam will be any subject from the MD3 program as a cumulative.
Retake exam might be.
No catch up exam will be given for quizzes or bloc.
For bloc Unless very good medical excuse and /or documented emergencies.
Any missed exam will be graded 0
RECOMMENDED TEXT BOOKS:

7. Bruce A. Fenderson, Review Of Pathology Illustrated Q&A, 2nd Ed, Lippincott Williams
8. Robert Groysman, Lange smart chart Pathology, Lange Medical Books/ McGraw-Hill
9. BRS Pathology (Board Review Series) Arthur S. Schneider MD (Author), Philip A. Szanto MD (Author)
10. First Aid for the USMLE Step 1 by Tao Le, Vikas Bhushan, and Deepak A. Rao
11. An Interactive Case Study Companion to Robbins Pathologic Basis of Disease is available online to registered HST students. This is a great resource for learning more and testing your knowledge about basic human pathology.
15. Pathology Secrets, 3e, Ivan Damjanov MD PhD
16. Harrison’s Principles of Internal Medicine, McGraw-Hill
17. Ravel’s Clinical Laboratory Medicine: Clinical Application of Laboratory Data.
20 Color Atlas of Basic Histopathology, C Milikowski and I Berman; Appleton and Lange, 1997
ON LINE RESOURCES:

1. http://sinoemedicalassociation.org/pathologylectures/  ask password


6. http://www.path.uiowa.edu (For Virtual Slides)

7. Medscape references

8. Pathology cases review:
   http://journals.lww.com/pathologycasereviews/pages/default.aspx

9. histology review: shotgun histology by Alexandra colesnicenco

10. https://www.youtube.com/watch?v=IQOkSF4rYrs&list=PLD7882068A01C370F

11. Pathguy.com the biggest pathology website

12. Any medical journal for cases.: News England journal of medicine with the
    Massachusetts’s pathology cases, Human Pathology,


**LECTURE SCHEDULE:**
**SPRING 2015**

This schedule might change, and any change will be announced.
All lectures are on the website

May 14th July 2nd Holidays

Registration & Orientation -- May 11th 2015
First Day of the Classes -- May 12th 2015

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<th>Wk</th>
<th>Day</th>
<th>DATE</th>
<th>CHAPTER</th>
<th>TOPIC</th>
<th>Professor</th>
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<tbody>
<tr>
<td>1</td>
<td>Tuesday</td>
<td>05/12</td>
<td>INTRODUCTION TO PATHOLOGY</td>
<td>DEFINITIONS, ETIOLOGY, PATHOGENESIS</td>
<td>Dr. HAMMOUDI</td>
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<tr>
<td></td>
<td>Wednesday</td>
<td>05/13</td>
<td>ADAPTATIONS OF CELLULAR GROWTH AND DIFFERENTIATION</td>
<td>HYPERTROPHY, HYPERPLASIA, ATROPHY, METAPLASIA</td>
<td>Dr. HAMMOUDI</td>
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<td></td>
<td>Thursday</td>
<td>05/14</td>
<td></td>
<td>HOLIDAY</td>
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<td></td>
<td>Friday</td>
<td>05/15</td>
<td></td>
<td>MECHANISMS OF CELL INJURY AND CELL DEATH</td>
<td>Dr. HAMMOUDI</td>
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<td></td>
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<td></td>
<td>MORPHOLOGICAL ALTERATIONS IN CELL INJURY AND NECROSIS</td>
<td>Dr. HAMMOUDI</td>
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<tr>
<td>2</td>
<td>Monday</td>
<td>05/18</td>
<td></td>
<td>APOPTOSIS, AUTOPHAGY, INTRACELLULAR ACCUMULATIONS, PATHOLOGIC CALCIFICATIONS, AGING</td>
<td>Dr. HAMMOUDI</td>
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<tr>
<td></td>
<td>Tuesday</td>
<td>05/19</td>
<td></td>
<td>ACUTE INFLAMMATION, MEDIATORS OF INFLAMMATION,</td>
<td>Dr. HAMMOUDI</td>
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<td></td>
<td>Wednesday</td>
<td>05/20</td>
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<td>OUTCOMES OF ACUTE INFLAMMATION</td>
<td>Dr. HAMMOUDI</td>
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<td>Thursday</td>
<td>05/21</td>
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<td>CHRONIC INFLAMMATION, CELLS MEDIATORS, OUTCOMES</td>
<td>Dr. HAMMOUDI</td>
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<td></td>
<td>Friday</td>
<td>05/22</td>
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<td>CHRONIC INFLAMMATION, CELLS MEDIATORS, OUTCOMES</td>
<td>Dr. HAMMOUDI</td>
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<td>3</td>
<td>Monday</td>
<td>05/25</td>
<td></td>
<td>SYSTEMIC EFFECTS OF AND CONSEQUENCES OF EXCESSIVE INFLAMMATION</td>
<td>Dr. HAMMOUDI</td>
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<td>Tuesday</td>
<td>05/26</td>
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<td>Dr. HAMMOUDI</td>
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<td></td>
<td>Wednesday</td>
<td>05/27</td>
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<td>Dr. HAMMOUDI</td>
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<tr>
<td>Day</td>
<td>Date</td>
<td>Topic</td>
<td>Lecturer</td>
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<tr>
<td>Thursday</td>
<td>05/28</td>
<td>STEM CELLS, CELL CYCLE, MECHANISMS OF TISSUE REGENERATION</td>
<td>Dr. Hammoudi</td>
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<td>Friday</td>
<td>05/29</td>
<td>MECHANISMS OF TISSUE REGENERATION</td>
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<tr>
<td>4 Monday</td>
<td>06/01</td>
<td>TISSUE RENEWAL, REGENERATION AND REPAIR</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Tuesday</td>
<td>06/02</td>
<td>MECHANISMS OF TISSUE REGENERATION</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Wednesday</td>
<td>06/03</td>
<td>ECM, HEALING BY REPAIR, ANGIogenesis</td>
<td>Dr. Hammoudi</td>
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<td>THURSDAY</td>
<td>06/04</td>
<td>HEMODYNAMIC DISORDERS</td>
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<tr>
<td>Friday</td>
<td>06/05</td>
<td>HEMOSTASIS AND THROMBOSIS, EMBOLISM</td>
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<td>5 Monday</td>
<td>06/08</td>
<td>HEMOSTASIS AND THROMBOSIS, EMBOLISM</td>
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<tr>
<td>Tuesday</td>
<td>06/09</td>
<td>INFARCTION, SHOCK</td>
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<td>Wednesday</td>
<td>06/10</td>
<td>Forensic pathology</td>
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<td>Thursday</td>
<td>06/11</td>
<td>NUTRITIONAL DISORDERS</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Friday</td>
<td>06/12</td>
<td>OBESITY</td>
<td>Dr. Hammoudi</td>
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<td>6 Monday</td>
<td>06/15</td>
<td>NEOPLASIA</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Tuesday</td>
<td>06/16</td>
<td>NOMENCLATURE, CHARACTERISTICS OF BENIGN AND MALIGNANT NEOPLASMS, METASTASES EPIDEMIOLOGY OF CANCER</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Wednesday</td>
<td>06/17</td>
<td>MOLECULAR BASIS OF CANCER, ONCOGENES CLINICAL ASPECTS OF NEOPLASIA</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Thursday</td>
<td>06/18</td>
<td>MECHANISMS OF INVASION AND METASTASES MULTISTEP CARCINOGENESIS, CANCEROGENIC AGENTS</td>
<td>Dr. Hammoudi</td>
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<tr>
<td>Friday</td>
<td>06/19</td>
<td>Quiz</td>
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<td>IMMUNOPATHOLOGY</td>
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<tr>
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<td>DUALITY OF IMMUNE SYSTEM, Ag+Ab BINDING</td>
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<td>TRANSPLANT REJECTIONS, AUTOIMMUNE DISEASES – SLE, SJOgren Syndrome, SYSTEMIC SCLEROSIS, INFLAMMATORY MYOPATHIES,</td>
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<td>PRIMARY IMMUNODEFICIENCY AQUIRED IMMUNODEFICIENCY (AIDS), AMYLOIDOSIS,</td>
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<td>Blood basic cell review</td>
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<td>Development &amp; Maintenance of Hematopoietic Tissues</td>
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<td>Anemia, Polycytemia</td>
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<tr>
<td>Wednesday</td>
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<td>Bleeding disorders, Hemorrhagic diathesis, Anemia, Polycytemia</td>
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<td>Bleeding disorders, Hemorrhagic diathesis, leukemias</td>
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<td>Leukemias/ lymphomas</td>
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<td>Leukemias/ lymphomas</td>
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<td>Infectious disease, MECHANISMS OF CELL INJURY INDUCED BY INFECTIOUS AGENTS AND HOST RESPONSE , ACUTE AND CHRONIC VIRAL INFECTIONS</td>
<td>Dr. HAMMOUDI</td>
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<td>BACTERIAL INFECTIONS INDUCED BY GRAM POSITIVE AND NEGATIVE MICROORGANISMS</td>
<td>Dr. HAMMOUDI</td>
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<td>INFECTIONS INDUCED BY OTHER BACTERIA, FUNGAL, PARASITIC INFECTIONS</td>
<td>Dr. HAMMOUDI</td>
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<td>07/31</td>
<td>Quiz</td>
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**Final exam**

Any lecture that cannot be covered in class due to time constriction, is the responsibility of the student to cover it and would be tested on it.

**BREAK START ON : FRIDAY AUGUST 14TH, 2015**
RECOMMENDATION FOR YOUR STUDIES:
START BY HAVING A BASE: KNOW YOUR BASIC SCIENCES, KNOW YOUR PATHOLOGY, NOT AS A BOARD REVIEW MATERIAL, BUT AS ACADEMIA [KNOW THE SLIDES, READ BIG ROBIN, BRS, READ 2 TO 3 CASES A DAY IF POSSIBLE, THEN DO QUESTION DURING YOUR WEEK ENDS.
THINK FAST READ FAST ANSWER FAST
ASK QUESTION, BE CURIOUS
GRADES ARE ONLY IMPORTANT TO PASS, BUT PASSING WITHOUT KNOWING THE MATERIAL WILL NOT GET YOU FAR. IT IS NOT TIME TO DO BOARD REVIEW OR BOARD MATERIAL UNTIL YOU BUILD YOUR BASE.

Step 1 Specifications*
System**
- 25%–35% General principles
- 65%–75% Individual organ systems
  - hematopoietic / lymphoreticular
  - nervous/special senses
  - skin/connective tissue
  - musculoskeletal
  - respiratory
  - cardiovascular
  - gastrointestinal
  - renal/urinary
  - reproductive
  - endocrine
  - immune

Process
- 20%–30% Normal structure and function
- 40%–50% Abnormal processes
- 15%–25% Principles of therapeutics
- 10%–20% Psychosocial, cultural, occupational, and environmental considerations

http://www.usmle.org/bulletin/exam-content/

NBME
General Principles 35%–40%
Cell Biology 1%–5%
Human Development and Genetics 1%–5%
Biology of Tissue Response 10%–15%
Multisystem Processes 5%–10%
Microbial Biology and Infection 1%–5%
Immune Responses 5%–10%
Organ Systems 60%–65%
Hematopoietic & lymphoreticular 5%–10%
Central & peripheral nervous 5%–10%
Skin & related connective tissue 5%–10%
Musculoskeletal 1%–5%
Respiratory 1%–5%
Cardiovascular 5%–10%
Gastrointestinal 5%–10%
Renal/urinary 5%–10%
Reproductive 5%–10%
Endocrine 1%–5%

**Approximate Step 1 Equivalents**

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