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**DAMANHOUR UNIVERSITY**  
**FACULTY OF VETERINARY MEDICINE**  
**PATHOLOGY & PARASITOLOGY DEPARTMENT**



**Pathology**

## **Veterinary Pathology**

### *Third year of B. V. Sc. program*

#### *(2012/2013)*

### Course specifications

Academic Program: Bachelor of veterinary Pathology

Course title: General Pathology for 3<sup>rd</sup> year students

Department offering the course: Pathology & Parasitology department

Course code : APATH, BPATH

Academic year: Third year of B. V. Sc. program

Total teaching hours: 120 hrs. (60 hrs Lectures + 60 hrs. laboratory sessions) .

Course duration: 10 weeks of teaching in one semesters, with mid- and a final exam.

Allocated marks: marks

Course director: Prof. Dr. Abdelrahman Abdelsatar Abou-Rawash

Head of the Department: Prof. Dr. Abdelrahman Abdelsatar Abou-Rawash

Teaching staff: 2 professors, 1 lecturers and 2 demonstrators

Date of specification approval: October 2009

## **I. AIM OF THE COURSE:**

- . To familiarize students with the basic disease patterns and their underlying mechanisms within the specific organ systems as for preparing the students for their clinical courses and future as a practitioners
- . To promote life long competencies necessary for continuous professional development

## **II. INTENDED LEARNING OUTCOMES (I. L. Os.):**

### **II-A: KNOWLEDGE and UNDERSTANDING:**

By the end of the course, students should be able to:

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- Define and discuss the main disease categories as well as the basic mechanisms underlying these disorders ( etiology and pathogenesis )
- Describe the morphology (gross & microscopic) of such disease processes in various organ systems.
- Determine the fate & complications of each particular disease and outline the general management procedures.

## **II-B: INTELLECTUAL SKILLS & ATTITUDE:**

(DATA ACQUISITION, DATA ANALYSIS & PROBLEM SOLVING)

By the end of the course, students should be able to:

- Predict the signs and symptoms of a disease based on the underlying gross & microscopic tissue changes responsible for symptomatology and physical changes in the patient, thereby enabling the student recognize patients with life/organ threatening conditions.
  - Interpreting in a professional manner a pathology report.
  - Choosing the most appropriate cost effective pathologic diagnostic procedures
- 7- Manage the information gained from different examination (Gross, microscopic, molecular, ,,) to reach accurate diagnosis.

## **II-C: PROFESSIONAL AND PRACTICAL SKILLS (CLINICAL & LABORATORY SKILLS):**

By the end of the course, students should be able to be prepared for their upcoming clinical training by:

- 8- Diagnose and accurately report or describe the pathologic picture of a disorder based on gross or microscopic morphology.

## **II-D: GENERAL AND TRANSFERABLE SKILLS**

LIFE LONG LEARNING, ETHICAL BEHAVIOUR & COMMUNICATION SKILLS

By the end of the course, students should be able to:

- 9- Appreciate the importance of life long learning and show a strong commitment to it
- Professional use of biomedical information resources to remain current with the advances in knowledge & practice .
  - Frame a question, search the literature, collect , analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine .

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- Respond appropriately according to the seriousness of the pathologic diagnosis in an acceptable humane manner.

1 - Maintain and improve professional image in manner, dress, speech and interpersonal relationships that is consistent with the veterinary medical profession's accepted contemporary standards in the community

- Identify difficult ethical situations and how to properly deal with them
- Express themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills

### III. COURSE CONTENTS:

#### III-A: TOPICS:

#### GENERAL LECTURERS,

Lecture Topics		Hours
1.	Introduction to the science pathology & its related disciplines, basic language of pathology	٢hrs
2.	Introduction to Disturbance in cell metabolism and Causes of cell injuries	٢hrs
3.	Cloudy swelling.	٢hrs
4.	Hydropic degeneration	
5.	Mucous degeneration	
5.	Amyloid infiltration Myxomatous degeneration. Gout.	
6.	Fatty Obesity	٢hrs
7.	Glycogen storage disease in liver	٢hrs
8.	Calcification Hemosidrosis Hemochromatosis	٢hrs
9.	Ictrus	٤hrs
10.	Pneumoconioses Anthracosis	

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11.	Necrosis and Gangrene	٧hrs
12.	Hyperemia (active, passive)	٤hrs
13.		
14.	Hemorrhage	٧hrs
15.	Thrombosis	٧hrs
16.	Embolism, Ischemia and Infarction	٧hrs
17.	Disturbances in fluid balance and Edema	٧hrs
18.	Shock	٧hrs
19.	Causes & phenomena of inflammation	٧hrs
20.	Inflammatory mediators & Chemotaxis	٤hrs
21.		
22.	Types of inflammation	٨hrs
23.		
24.		
25.	Fate of inflammation Healing and repair	٤hrs
26.	Disturbance in cell growth & differentiation	٧hrs
27.	Introduction Nomenclature and Classification of neoplasia gross appearance	٤hrs
28.	Tumors of epithelium	٤hrs
29.	Tumors of non-epithelial origin.	٤hrs
30.	Causes and treatment of neoplasia	٧hrs
<b>1</b>		
<b>Total</b>		<b>٧٠hrs</b>

**CLINICAL PRACTICE:**



<b>Laboratory Topics</b>		<b>Hours</b>
1.	<b><i>Histopathological technique I</i></b>	4hrs
2. 3. 4.	<b>Disturbance in circulation</b> <ul style="list-style-type: none"> <li>○ Congestion in different organs as lung, liver and kidney</li> <li>○ Hemorrhage in different organs</li> <li>○ Thrombosis in different organs</li> <li>○ Organized, calcified, recent and parasitic thrombus</li> <li>○ Infarction.</li> <li>○ Edema</li> </ul>	12hrs
5. 6. 7.	<b>Disturbance in cell metabolism</b> <ul style="list-style-type: none"> <li>○ Cloudy swelling in liver and kidney.</li> <li>○ Hydropic degeneration</li> <li>○ Mucous degeneration</li> <li>○ Amyloid infiltration</li> <li>○ Myxomatous degeneration.</li> <li>○ Gout.</li> <li>○ Fatty change in liver and kidney.</li> <li>○ Glycogen storage disease in liver</li> </ul>	12hrs
8. 9. 10.	<b>Inflammation</b> <ul style="list-style-type: none"> <li>○ Inflammatory cells neutrophil, basophil ,esinophil ,monocyte and lymphocyte</li> <li>○ Types of inflammation according to exudates content as</li> <li>○ serous inflammation</li> <li>○ catarahal inflammation</li> <li>○ fibrinous inflammation</li> <li>○ lymphocytic inflammation</li> <li>○ suppurative inflammation</li> <li>○ Hemorrhagic</li> <li>○ Allergic dermatitis</li> <li>○ Healing and repair</li> </ul>	14hrs
11.	<b>Necrosis and Gangrene</b> <ul style="list-style-type: none"> <li>○ Coagulative necrosis, liquifactive ,casious necrosis.</li> <li>○ Gangrene</li> </ul>	4hrs
12.	<b>Disturbance in cell growth</b> <ul style="list-style-type: none"> <li>○ Hyperplasia in the glandular epithelium.</li> <li>○ Metaplasia in renal pelvis ,c.t.</li> <li>○ Dysplasia</li> </ul>	4hrs
13. 14. 15.	<b>Neoplasia</b> <ul style="list-style-type: none"> <li>○ Morphology of tumors.</li> <li>○ Tumors of epithelium</li> <li>○ Tumors of non-epithelial origin.</li> <li>○ Causes and treatment of neoplasia</li> </ul>	12hrs
<b>Total</b>		<b>60 hrs</b>

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## IV. TEACHING AND LEARNING METHODS

The teaching and learning methods includes

### METHODS USED:

1. General lectures
2. E-learning
3. Tutorials, seminars, Interactive learning: discussions, case studies and oral presentations
4. Practical Histopathology slide lab
5. Research assignment.
6. Case studies.
7. Museum of pathology, Post Mortem & fresh surgical samples

## V. TEACHING AND LEARNING FACILITIES:

### ***Facilities used for teaching this course include:***

**LECTURE HALL:** Writing board, Data show is available with prior arrangements.

**SMALL GROUP CLASSES:**

**Two large labs at the pathology department. Each group is present separately in these labs.**

**LIBRARY:**

**3<sup>rd</sup> floor of management building in the faculty of veterinary medicine,**

**SKILLS:**

**Training of students in all branches of pathology during conduction of the course.**

## VI STUDENT ASSESSMENT:

### VI-A: ATTENDANCE CRITERIA:

The minimum acceptable attendance is \_\_\_\_\_, Students who fail to meet their attendance requirements are not allowed to sit for their final exams.

### -B: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written exam:	Assessment of knowledge & understanding, intellectual skills
Oral exam	Assessment of knowledge & understanding, general and transferable skills (communication), professional attitudes/skills & intellectual skills
Practical exam	Descriptive & diagnostic abilities and theory application (intellectual skills) and professional / practical skills & general and transferable skills

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Assignment	Assessment of knowledge & understanding Assessment of general and transferable skills (life long learning skills & presentation skills)
Interactive learning	Assessment of knowledge & understanding, intellectual skills & Assessment of life long learning skills, ethical attitudes & communication skills
Log book (attendance & grade record)	Assessment of attendance- discussion participation- quizzes/drills & activities evaluation (intellectual skills and professional / practical skills)

**VI-C: TIME SCHEDULE:**

EXAM	Time
Mid term written exam	November last wk
Practical exam	January 1 <sup>st</sup> wk
Final written exam	January 2 <sup>nd</sup> wk
Oral	January 2 <sup>nd</sup> wk

**VI-D: GRADING SYSTEM:**

Examination:	Marks allocated	% Marks
Mid Term written exam	10	20 %
Practical exam	7.5	15%
Oral exam	7.5	15%
Final written exam	25	50%
<b>TOTAL</b>	<b>50</b>	<b>100%</b>

The minimum passing score is 30 marks provided that, at least 10 marks are obtained in the both written examinations.

Passing grades are: **EXCELLENT**  $\geq 80\%$  , **VERY GOOD**  $70\% - <80\%$  , **GOOD**  $60\% - <70\%$  and **FAIR**  $50\% - <65\%$ .

**VII. LEARNING AND REFERENCE MATERIALS:**

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### VI-A: BASIC MATERIALS:

- Lectures in general pathology by Dr Aborawash AA.
- Color atlases of Gross Pathology and Histopathology
- Overhead projections, slides and computer presentations used during teaching.
- E-learning material on our web site

Recommended Textbook :

- Principles of Veterinary Pathology by Runnels RA, Monlux WS and Monlux AW .
- General Pathology, JB Walter, MS Israel:
- Pathology of Domestic Animals. Jubb, Kennedy & Palmer
- Muir's text book of Pathology.
- Basic Pathology by Kumar, Cotran & Robbins, Available at faculty bookshops & main library

Important web sites

- <http://www.vet.uga.edu/index.php>
- <http://www.vet.cornell.edu/nst/>
- <http://www.merckvetmanual.com/>
- <http://www.path.uiowa.edu/virtualslidebox/>
- <http://www.pathmax.com/>
- <http://www.pathmax.com/>
- <http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#>
- <http://www.med.uiuc.edu/PathAtlasf/titlePage.html>
- <http://www.medscape.com/pathologyhome>
- <http://www.gwumc.edu/dept/path/F.HTM>
- <http://www.path.uiowa.edu/virtualslidebox/>
- <http://web.med.unsw.edu.au/pathology/Pathmus/pathmus.htm#InteractiveImages>
- <http://www.virtualpathology.leeds.ac.uk/>
- <http://histopathshop.com/index.html>
- <http://pathology.class.kmu.edu.tw/index.htm>
- <http://www.gla.ac.uk/faculties/medicine/teaching/MedCAList.htm>
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### VI-B: SUGGESTED MATERIALS:

- **CD-ROM containing topics and presentations in vet. pathology (available in the department).**

Course director:

Head of the Department:

Prof. Dr. Abou-Rawash A. A

Prof. Dr. Abou-Rawash A. A



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نموذج رقم ( 11 أ )

جامعة دمنهور  
كلية الطب البيطري  
قسم : الباثولوجيا والطفيليات  
مادة : الباثولوجيا

**Course Matrix (أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي**

المهارات العامة والمنقولة G.& T.S.						المهارات العملية والمهنية P.& P. S.						المهارات الذهنية I. S.						المعرفة والفهم K & U						أسبوع الدراسة Weeks	محتويات المقرر Topics	م						
6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1			
																	X							X						1	Introduction to basic language of pathology	1
		X								X						X								X						2	Causes of cell injuries and Disturbance in metabolism	2
	X							X								X							X						4-3	Disturbance in metabolism	3	
				X			X							X						X				X					7-5	Disturbance in circulation	4	
	X						X							X									X						10-8	Inflammation	5	
		X							X									X						X					11	Necrosis and Gangrene	6	
								X									X								X				12	Disturbance in cell growth	7	
							X									X								X					15-13	Neoplasia	8	
	X						X									X								X					18-16	Pathology of Digestive system		
	X							X								X								X					201-19	Pathology of Respiratory system		
	X							X								X								X					22-21	Pathology of Cardiovascular		

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المهارات العامة والمنقولة G.& T.S.						المهارات العملية والمهنية P.& P. S.						المهارات الذهنية I. S.						المعرفة والفهم K & U						أسبوع الدراسة Weeks	محتويات المقرر Topics	م									
6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1						
	X							X								X																	system		
	X							X								X																	24-23	Pathology of Nervous system	
	X							X								X																	26-25	Pathology of Urinary system Blood	
	X							X								X																	28-27	Pathology of Female Genital System	
	X							X								X																	30-29	Pathology of Male genital System	

رئيس مجلس القسم :

أستاذ المقرر :

اد / عبدالرحمن عبدالستار السيد ابورواش

اد / عبدالرحمن عبدالستار السيد ابورواش