**1-Basic information**

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| **Course Code:** | S3-PATH |
| **Course title :** | General and systemic pathology |
| **Academic year:** | 3rd.year, 2017/2018 |
| **Program title:** | B. Sc. Veterinary Medicine  |
| **Contact hours/ week** | Lecture : 3 hours/week - practical: 2 Practical/week (2 semesters)  |
| **Approval Date** | September 2017 |

**2-Professional information**

**Overall aims of course**:

**This course aims to:**

1- Define, describe, classify and identify the difference between the normal (or healthy) gross and microscopic anatomy and the abnormal (diseased) gross and microscopic anatomy.

2- Identify the mechanisms, by which the disease developed, progressed and squealed by identifying different macroscopic & microscopic changes revealed in the tissue during diseases by good preparation and manipulation of good representative samples of the diseases.

3- Describe the distribution of pathological lesions in the different organs and tissues.

4- Represent the pathological changes diagrammatically.

**3- Intended learning outcomes of course (ILOs)**

**a-Knowledge and understanding:**

**By the end of this course the student should be able to:**

a1- List the general pathological changes in the tissues and organs.

a2-Define the relationship between causes and tissue/organ.

a3- Recognize the different types of pathological lesions.

a4- Outline the types and classification of different tissue/organ changes.

a5-Define the mechanisms of pathological alterations.

a6-Illustrate the molecular and cellular response of the living body when exposed to injurious agent.

a7- Outline the different pathological terms in different tissues.

**b-Intellectual skills**

**By the end of this course the student should be able to:**

b1-Classify the pathological changes occurred in the tissue /organs on the general pathology bases

b2-Differentiate between tissue/organ appearance in health and diseased animal.

b3- Select tissue specimens for pathological diagnosis on print-finger bases..

b4- Integrate and predict the prognosis and sequllae of different pathological lesions.

b5- Interpret the macroscopic and microscopic alterations in different tissues and organs.

**c-Professional and practical skills**

**By the end of this course the student should be able to:**

c1- Practice the criteria of gross and microscopic examination.

c2- Perform good management in microscopy and description of different changes in different tissues and organs.

c3- Examine the pathological changes as a diagnostic base by the aid of light microscopy in examination of tissue samples.

c4-Identify microscopically the different pathological lesions.

c5- Prepare the graduate to get the ability of decision making.

**d-General and transferable skills**

**By the end of studying the course, the student should be able to:**

d1- Work in a group and manage time.

d2-Produce reports.

d3- Demonstrate the ability of problem definition.

d4-Increase the ability of problem solving

d5-Utilize the computer, microscope and internet..

**4-Topics and contents**

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| **First semester**  |
| **Course** | **Topic** | **No. of hours** | **Week(s)** | **Practical****HOURS** |
|  **First semester (Lec. 3h./week, Pract. 2h./week)** | **Course description*** **Introduction to general pathology**
 | 2 | 1st  | - |
| **-Disturbances in cell metabolism** **Disturbances of cell protein Lipid, carbohydrates metabolism** | 4 | 1st 2nd | 4 |
| **-Disturbances in cell metabolism** **Dist. Of minerals and pigment metabolism** | 4 | 3rd4th  | 2 |
| **- Necrosis and apoptosis – gangrene** | 2 | 4th  | 2 |
| **-Disturbances in circulation:****(congestion-edema-shock-hemorrhage)** | 3 | 5th  | 2 |
| **-Disturbances in circulation****(thrombosis-embolism-infarction)** | 3 | 6th  | 2 |
| **-Inflammation**:**(Patho-mechanism)** | 3 | 7th  | 2 |
| **-Inflammation****(Types)** | 3 | 8th  | 2 |
| * **Healing and repair**

**Hypersensitivity and immunodeficiency** | 3 | 9th  | 2 |
|  | **-Adaptation and disturbance in cell growth** | 3 | 10th  | 2 |
|  | **-Tumors** **(Nomenclature, causes, classification** **-Benign and malignant epithelial and non-epithelial tumors** | 6 | 11th12th  | 4 |
|  | Assignments **:** **Students activities*** **Collect pathology, specimens.**
* **Writing assays.**

**Pathology rounds** | 3 | 13th  | - |
| Total |  | 39 | 13 | 24 |
| **Second semester** |
| **Second semester (Lec. 3h./week, Pract. 2h./week)** | **-Pathology of Digestive system****(Oral cavity-Salivary glands)** | 3 | 1st  | 2 |
| **-Pathology of Digestive system****(Esophagus- Fore stomach- -Stomach- Intestine -Liver –Protenium)** | 3 | 2nd  | 2 |
| **-Pathology of Respiratory system****(Upper respiratory tract)** | 3 | 3rd  | 2 |
| **-Pathology of Respiratory system****(Lower respiratory tract)** | 3 | 4th  | 2 |
| **-Pathology of Cardiovascular system** | 3 | 5th  | 2 |
| **-Pathology of Nervous system** | 3 | 6th  | 2 |
| **-Pathology of Urinary system** | 6 | 7th8th  | 4 |
| **Pathology of female genital system** | 6 | 9th 10th  | 4 |
| **Pathology of male genital system** | 5 | 11th12th  | 4 |
| Assignments **:****Students activities*** **Collect pathology specimens.**
* **Writing assays.**
* **Pathology rounds**
 | 4 | 13th  | - |
| Total |  | 39 |  | 24 |

**5-Teaching and learning methods**

5.1- Lectures (brain storm, discussion) using board, data shows and multimedia

5.2- Self learning by preparing essays and presentations (computer researches and faculty library), sample collections and preparation, and histopathology and Gross pathology rounds.

5.3- Practical (gross and microscopic examination and electronic slides).

**6-Teaching and learning methodsfor the students with disabilities**

Office hours and special meeting.

**7-Student assessment**

**7.1. Assessments methods:**

|  |  |
| --- | --- |
| **Method** | Matrix alignment of the measured ILOs/ Assessments methods |
| **K&U** | **I.S** | **P&P.S** | **G.S** |
| written Exam | 1-7 | 1-5 | - | 1-5 |
| Practical Exam |  |  | 1-5 |  |
| Oral exam | 1-7 | 1-5 | 1-5 | 1-5 |

**7.2. Assessment schedules/semester**

|  |  |
| --- | --- |
| **Method** | **Week(s)** |
| Practical exams | 14th semester |
| Final exams | 15th semester |
| Oral exam | 15th semester |
| Student activity | During semester |

**7.3. Weight of assessments /semester**

|  |  |
| --- | --- |
| Assessment | Weight of assessment |
| Mid-term exam | -- |
| Practical exams | (15) 30% |
| Oral exams | (10) 20% |
| Final exams | (25) 50% |
| Student activities (Essay) | -- |
| Total  | (50) 100% |

**8- List of references**

**8.1. Notes and books**

* **Departmental notes on:**
* **Deeb, S.; Samy, M.; El-Begawey, M.; Shalaby, A.; El-Nesr, Kh.;Mahdy, E.; El-Nahass, S., and Taha, Kh. (2014)** Text book of general pathology, BeniSuef University.
* **Deeb, S.; Samy, M.; El-Begawey, M.; Shalaby, A.; El-Nesr, Kh.;Mahdy, E.; El-Nahass, S., and Taha, Kh. (2014)** Text book of systemic pathology, BeniSuef University.
* **Deeb, S.; Samy, M.; El-Begawey, M.; Shalaby, A.; El-Nesr, Kh.;Mahdy, E.; El-Nahass, S., and Taha, Kh. (2014)** Practical general pathology, BeniSuef University.
* **Deeb, S.; Samy, M.; El-Begawey, M.; Shalaby, A.; El-Nesr, Kh.; Mahdy, E.; El-Nahass, S., and Taha, Kh. (2014)** Practical systemic pathology, BeniSuef University.

**8.2. Essential books:**

* **Jubb, K.V., P.C. Kennedy and N. Palmer (2007):** Veterinary pathology 4th ed. San Diego, New york
* **Jones, T.C., Hunt, R.D. and King, N.W (1996):** Veterinary pathology. 6th ed. Williams and wilkins Awaverly company.

**8.3. Recommended texts**

None

**8.4. Journals, Websites ……..etc**

**Journals:**

- Egyptian Journal of Comparative Pathology and Clinical Pathology

- PathologiaVeterinaria

- American Journal of Pathology

- Journal of Pathology and Bacteriology

- Archive of Pathology

- Veterinary Record

- Journal of Comparative Pathology

- Canadian Journal of comparative Medicine

- American Journal of veterinary research

- Research on veterinary Science

**Websites:**

[**www.neclc.edu.eg**](http://www.neclc.edu.eg)

[**www.asvp.asn.au.com**](http://www.asvp.asn.au.com)

[**www.geneng**](http://www.geneng)**news.com**

[**www.altcancer.com**](http://www.altcancer.com)

**Course Coordinators Head of Department**

**Dr. EL-Shaymaa N. EL-Nahass Prof. Dr. Khalid A. El-Nesr**

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| **First semester**  | **Topic** | **Week** | **Intended learning outcomes of course (ILOs)** |
| **K&U(a)** | **I.S(b)** | **P.P.S (c)** | **G.T.S (d)** |
| **1st term** |
| * **Introduction to general pathology**
 | 1 | 1, 2, 3,5,7 | 1,3 | - | 1-5 |
| **-Disturbances in cell metabolism** **Disturbances of cell protein Lipid, carbohydrates metabolism** | 2 &3 | 1, 2, 3,4,5,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Disturbances in cell metabolism** **Dist. Of minerals and pigment metabolism** | 4 | 1, 2, 3,5,6,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **- Necrosis and apoptosis – gangrene** | 5 | 1, 2, 3,5,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Disturbances in circulation:****(congestion-edema-shock-hemorrhage)** | 6 | 1, 2, 3,4,5,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Disturbances in circulation****(thrombosis-embolism-infarction)** | 8 | 1, 2, 3,5,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Inflammation**:**(Patho-mechanism)** | 9 | 1, 2, 3,5,6,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Inflammation****(Types)** | 10 | 1, 2, 3,5,6,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| * **Healing and repair**

**Hypersensitivity and immunodeficiency** | 11 | 1, 2, 3,4,5,7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Adaptation and disturbance in cell growth** | 1112 | 1&2 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Tumors** **(Nomenclature, causes, classification** **-Benign and malignant epithelial and non-epithelial tumors** | 13 | 1&2 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Assignments (student activities)** | 13 | 1, 2, 3,4,,5,7 | 1, 3, 4 | 1, 2 | 1-5 |

2nd term

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|  | **Pathology of Digestive system****(Oral cavity-Salivary glands)** | 1 | 1-3 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Pathology of Digestive system** **(Esophagus- Fore stomach- -Stomach- Intestine -Liver –Peritoneum)** | 2 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Pathology of Respiratory system****(Upper respiratory tract)** | 3 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Pathology of Respiratory system****(Lower respiratory tract)** | 4 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Midterm exam – student activities**  | 5 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Pathology of Cardiovascular system** | 6 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **-Pathology of Nervous system** | 7 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Pathology of Urinary system** | 8 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Pathology of male genital system** | 9&10 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Pathology of female genital system** | 11&12 | 1-7 | 1, 2,3,4,5 | 1-5 | 1-5 |
| **Assignments :****Students activities****Collect pathology specimens.****Writing assays.****Pathology** | 13 | 2, 6, 7 | 1,2,3,4 | 1-5 | 1-5 |