## COURSE SPECIFICATIONS

### Master Degree

**University:** Benha.

**Faculty:** Veterinary Medicine.

**Course Title:** Biochemistry of biological fluids and Tissues.

**Code:** 28.

**Department offering the course:** Biochemistry Department.

**Program(s) on which the course is given:** Master degree in veterinary science (Biochemistry).

**Academic Year / level:** 2010-2011.

**Date of specification approval:** 10 / 1 / 2010

### A- Basic Information

**Title:** Biochemistry of biological fluids and Tissues.

| Lecture: 2 | Practical: 2 | Total: 4h /w |

### B- Professional Information

1- **Overall Aims of the Course:** The postgraduate student:

   1- gain first the experience in collecting samples of the body fluids.
   2- develop skills in handling and preparing of the different body fluids.
   3- provide the students with skills in interpretation of published literature to prepare them to incorporate and integrate new developments into research and clinical activities.

2- **Intended Learning Outcomes of the Course:** (ILOs)

#### A- knowledge and Understanding

After the completion of these courses the student should be able to:

   A.1. Define a scientific terms of Biological fluids.
   a.2. list a different types of biological fluids.
   A.3 Illustrate the biochemical composition of urine.
   a.4. state the biochemical composition of milk.
   a.5. enumerate the biochemical composition of blood.
a.6. mention the biochemical composition of semen and saliva.

a.7. mention the biochemical composition of cerebrospinal fluids.

a.8. Summarize the role of these Fluids in the living cells.

a.9. Mention Knowledge of best recent practice in Biological fluids.

a.10. Realize How can write a thesis and research proposal.

**B-Intellectual skills:**

After the completion of these courses the student should be able to:

b.1. Design a research proposal in body fluids.

b.2. Estimate, Identify and Evaluate the articles and collected research papers in Biochemistry of Body fluids and tissues.

b.3. Realize How can write a thesis.

b.4. analyze biochemical changes in blood.

b.5. analyze biochemical changes in urine.

b.6. analyze biochemical changes in milk.

b.7. analyze biochemical changes in semen and saliva.

b.8. analyze biochemical changes in cerebrospinal fluid.

b.9. Comment accurately up on the obtained results on his given results.

**C-Professional and practical skills:**

After the completion of these courses the student should be able to:

c.1. Write a biochemical report of blood parameters changed.

c.2. explain changes in urine constituents.

c.3. diagnose alteration of milk content.

c. 4. Calculate a percentage of the sperms in the semen analysis.

c.5. Perform relevant statistical analysis of the obtained data.

c.6. Conduct research project using appropriate range of Experimental techniques.

c.7. judge the different results

**D-General and transferable skills:**

After the completion of these courses the student should be able to:

D.1. successful member chemist.
D.2. Illustrate a scientific study in the Biochemistry laboratories.
D.3. Set the basis of the scientific chemists' terms.
D.4. Have problem solving skills.
D.5. Information technology skills.

E- **Attitude:**

After the students fishing this courses they should be able to:

E.1. Scientific Integrity.
E.2. Know the rules and ethics of Scientific research

3 – **CONTENTS:**

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of hours</th>
<th>Lecture</th>
<th>Practical</th>
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<tbody>
<tr>
<td>Blood</td>
<td>48</td>
<td>24</td>
<td>24</td>
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<tr>
<td>Urine</td>
<td>36</td>
<td>18</td>
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<tr>
<td>Milk</td>
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<td>Saliva</td>
<td>20</td>
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<tr>
<td>Semen</td>
<td>20</td>
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<tr>
<td>Cerebrospinal fluid</td>
<td>16</td>
<td>8</td>
<td>8</td>
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<td><strong>Total</strong></td>
<td><strong>176</strong></td>
<td><strong>88</strong></td>
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4- **Teaching and learning methods:**

4.1. Lectures.
4.2. Practical demonstration of chemical reactions.
4.3. Visiting the Central Laboratory.
4.4. Reports.

5- **Student assessment methods:**

5.1. Research work  | To assess student ability for discussion of his attendants.
5.2. Oral Examination | To assess student ability to demonstrate his knowledge
5.3. Practical Exam  | To assess Practical skills.
5.4. written Exam     | To assess different skills.

**Weighing of assessments:**
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<td>Midyear work</td>
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<tr>
<td>Oral examination</td>
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<td>Practical examination</td>
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<td>Research work</td>
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<td>Final examination</td>
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6- List of References:


6.2. Essential books (Text books):


6.3. Recommended books:


6.4. Periodicals, Web sites, etc:

- Journal of Biochemistry.
- American Journal of Veterinary research.
- http://www.labtestsonline.org
- http://www.indstate.edu/thcme/mwking/enzyme-kinetics.html
- http://www-biol.paisley.ac.uk/kinetics/contents.html

7- Facilities Required for Teaching and Learning:
7.1. Data show and computer.
7.2. Biochemistry Laboratory.
7.3. Laboratory animals.
7.4. Library.

Course Coordinators (Teaching Committee):

1. Assistant Prof./ Yakout A. El-Senosy
2. Assistant Prof./ Afaf Desoky Abd El-Magid
3. Assistant Prof./ Omnia Mahmoud Abd El-Hamid

Head of Biochemistry Department:
Prof. Dr / Hussein Abd El-Maksoud Ali Abd El-Maksoud

Date: 10/1/2010.

Matrix of the course no: 28 (biochemistry of biological fluids and tissues)

<table>
<thead>
<tr>
<th>Course title</th>
<th>No of hours teaching</th>
<th>Program ILOs covered by No</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Cerebrospinal fluids</td>
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