COURSE SPECIFICATIONS

Master Degree

University: Benha.

Faculty: Veterinary Medicine.

Course Title: Biochemistry and Clinical Biochemistry (Fundamental course)

Code:

Department offering the course: Biochemistry Department.

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

Academic Year / level: 2011-2012

Date of specification approval: 10 / 1 / 2012

A- Basic Information

Title: General Biochemistry and chemistry of nutrition.

Lecture: 3  Practical: 4  Total: 7h /w

B- Professional Information

1- Overall Aims of the Course:

The postgraduate student should be:

1- accept experience in collecting information from different sources,
2- provide the student of master with professional skills and attitude in handling recent technique and diagnostic tools.
3- demonstrate an awareness of the connection with different disciplines of the world – wide research by reviewing the scientific literature.
4- solve a problems in area of biochemistry.
5- to guide the graduate to be able to understand the self development and the continuous learning.
6- to prepare and upgrade the students for registering to the PhD degrees in field of the reproductive management and biotechnology.

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 the different Scientific terms in General Biochemistry.
- a.2. Identify a Scientific terms of anabolism and catabolism.
- a.3. Understand the basic knowledge about Carbohydrates, Lipids and Proteins classifications.
- a.4. Illustrate the basic knowledge about their chemical composition.
- a.5. Recognize the normal metabolism of the carbohydrate, lipids and proteins.
- a.6. Describe the abnormal metabolism of the carbohydrate, lipids and proteins.
- a.7. Summarize the role of these compounds in the living cells.
- a.9. Know the terms of immunochemistry and its classification.
- a.10. Translate the different pathways into energy production.
- a.11. Interpret the abnormalities of hormonal levels in the blood.
- a.12. Illustrate the enzymes and coenzymes.
- a.13.Enumerate the minerals and their roles in the body functions.
- a.15. Mention Knowledge of best recent practice in Biological fluids.

### B-Intellectual skills:

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

- b.1. Design a research proposal in the field of biochemistry.
- b.2. Determine the different disorders of metabolism.
- b.3. Identify and Evaluate the articles in the field of general metabolic biochemistry.
- b.4. Analyze the blood enzymes.
- b.5. Develop skills for using new laboratory diagnostic tools.
- b.6. Criticize and Assess their own research data regarding the research area.
- b.7. 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 the report of the Biochemical reactions that have been tested.
- c.2. Diagnose a disease of abnormal data.
- c.3. Calculate the data obtained from their researches.
c.4. Perform relevant statistical analysis on data obtained from own research which support his Biochemical skills

c.5. Conduct research project using appropriate range of Experimental techniques.

c.6. solve a problems applied in his field.

**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. Communication skills.

D.6. Information technology skills.

D.7. Continuous self learning (life long learning).

D.8. Focus in his role in community development.

**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

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<th>No. of hours</th>
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<td>Lipid chemistry and metabolism</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>Oral 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/thcmce/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. Prof. Dr/ Hussein Abd El-Maksoud Ali
2. Assistant Prof./ Afaf Desoky Abd El-Magid
3. Assistant Prof./ Omnia Mahmoud Abd El-Hamid

Head of Biochemistry Department:

Prof. Dr/ Yakout Abdel-Fattah

Date: 10 / 1 / 2012
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