Course specification

1-Basic information

Course Code:	BIC: 2116
Course title :	Biochemistry (Metabolism)
Academic year:	2nd academic Year (2018-2019)
Program title:	B. Sc. Veterinary Medical sciences
Contact hours/ week	4 hours/week, (2 Lect./week, 2 Practical/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to

1- To enable the student to illustrate and/or describe the metabolic pathways of macronutrients.
2- To enable the students to point-out hereditary and acquired metabolic disturbances and their biochemical laboratory outcomes.
3- To enable the student to point out the bioenergetics of the concerned metabolic pathways under different physiological circumstances and their integrator regulations with other working metabolic pathways.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

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

A1- Define the metabolic pathways of carbohydrates, lipids, proteins.
A2. Illustrate the steps and regulatory mechanisms of these pathways.
A3. Point out the related metabolic disorders and their clinical prints on biochemical basis.
A4. Describe micronutrients, their biochemical and laboratory importance and deficiency manifestations of each**.**

b-Intellectual skills

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

B1- Interpret symptoms, signs and biochemical laboratory findings of some metabolic disorders.

B2- Point out the clinical significance of determination of plasma levels of glucose, total proteins, albumin, cholesterol, calcium and phosphorus.

B3- Diagnose the type of abnormality of glucose tolerance curve.
B4- Point-out the etiology of metabolic disturbance in a given case study report.

C-Professional and practical skills

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

Course specification

C1- Estimate serum levels of glucose, total proteins, albumin, cholesterol, by colorimetric methods.
C2. Assess glucose tolerance by glucose tolerance test
C3- Perform different biochemical essays for measuring the concentration of minerals in blood such as calcium and phosphorus.

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 in lab or during preparation of seminars.
D2-The student respects the role of staff and co-staff members regardless of degree or occupation.
d3- Utilize new technological tools.
d4- Utilize efficiently library facilities and IT tools.

4-Topics and contents

Course	Topic	week	No. of hours	Lectures (2 hs/week)	Practical (2 hs/week)
2nd year – First term – Biochemistry (Metabolism) – (Lec. 2h/ week, Pract. 2h/ week)	Biological oxidation	1	4	2	2
	Metabolism of Carbohydrates	2,3,4,5	18	8	10
	Metabolism of lipids	6,7,8	14	6	2
	Metabolism of proteins	9,10,11	8	6	8
	Metabolism of minerals	12,13	8	4	4
	Total		52	26	26

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows.
5.2- Self learning by preparing essays and presentations (computer researches and faculty library)
5.3- Practical (blood and tissue samples).

6-Teaching and learning methods for the students with disabilities

Office hours and special meeting.

Course specification

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**
Final Exam	a1, a2,a3,a4	B1, B2, B3,B4		
Practical Exam		B2,B3	c1,c2,c3	D1, D2,D3
Oral Exam	a1, a2,a3,a4	B1, B2,B3,B4		D4

7.2. Assessment schedules/semester:

Method	Week(s)
Practical exams	15th weak
Final exams	managed by administrations
Oral Exam	The same day of the final exam.

7.3. Weight of assessments:

Assessment	Weight of assessment
Practical exams	20%
Final exams	50%
Oral exams	20%
Student activity	10%
	100%

8- List of references

8.1. Notes and books

Departmental notes: none

8.2. Essential books:

- Hand Book of Biochemistry
-Practical Clinical chemistry

8.3. Recommended texts

- Haper's of Biochemistry.
- Biochemistry and clinical correlation.

8.4. Journals, Websites ……..etc

Journals: Biomedicine and pharmacotherapy, clinical chemistry and molecular biology

Websites: www.pubmed.com.

Course Coordinators **Head of Department**

Course specification

Course specification

Topic	Week	Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Biological oxidation	1				
Metabolism of Carbohydrates	2,3,4,5	1,2,3	1,2,3,4	1,2	1,2,3,4
Metabolism of proteins	6,7,8	1,2,3	1,2,4	1	1,2,3,4
Metabolism of lipids	9,10,11	1,2,3	1,2,4	1	1,2,3,4
Metabolism of minerals	12,13	3,4	2	3	1,2,3,4