



Course specification

1-Basic information

Course Code:	BIC: 2116
Course title :	Biochemistry (Metabolism)
Academic year:	2 nd academic Year (2017-2018)
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	No. of hours	Lectures (2 hs/week)	Practical (2 hs/week)
1 st year – Second term – Basic Biochemistry – (Lec. 2h/ week,	Metabolism of Carbohydrates	14	5	7
	Metabolism of proteins	8	4	4
	Metabolism of lipids	8	3	1
	Metabolism of minerals	8	1	1
	Total	52	13	13

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	14 th 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	30%
Final exams	50%
Oral exams	20%
Student activity	
	100%

8- List of references

8.1. Notes and books

Departmental notes: none

8.2. Recommended texts

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

8.3. Journals, Websitesetc

Journals: Biomedicine and pharmacotherapy, clinical chemistry and molecular biology

Websites: www.pubmed.com.

Course Coordinators

Head of Department



Course specification

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

