



## Course specification

### 1-Basic information

<b>Course Code:</b>	BIC: 2221
<b>Course title :</b>	Biochemistry and body fluids
<b>Academic year:</b>	2 <sup>nd</sup> academic Year (2018-2019)
<b>Program title:</b>	B. Sc. Veterinary Medical sciences
<b>Contact hours/ week</b>	4 hours/week, (2 Lect./week, 2 Practical/week)
<b>Approval Date</b>	

### 2-Professional information

**Overall aims of course:**

**This course aims to**

- 1- To enable the student to illustrate and/or describe different compositions of different body fluids (blood, milk and urine).
- 2- To enable the students to point-out liver functions tests, kidney functions tests.
- 3- To enable the student to point out the most important tumor markers.

### 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 different composition of body fluids (blood, milk and urine).
- A2. Illustrate the steps of evaluating liver, kidney and cardiac functions and electrolytes.
- A3. Point out the structure of hemoglobin and its related metabolic disorders
- A4. Describe the most important tumor markers and their tissue specificity.

#### b- Intellectual skills

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

**B1-** Interpret on the biochemical laboratory findings of blood, milk and urine reports.

**B2-** Point out the clinical significance of measuring liver , kidneys and cardiac functions parameters

**B3-** Diagnose the type of abnormality and the origin of disorder associated with elevated certain tumor marker.

**B4-** Diagnose the type of abnormality and the origin of disorder associated with acid base balance and blood electrolytes.

#### C-Professional and practical skills

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

**C1-** Estimate the different composition of body fluids (blood, milk and urine).

**C2.** Assess the parameters that measure heme disorders (total, direct and indirect bilirubin)

**C3-** Perform different biochemical essays for measuring liver and kidneys functions (ALT, AST, Urea, Creatinine and uric acid) and blood electrolytes.



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### 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)	
2 <sup>nd</sup> year – Second term Biochemistry and body fluids - (Lec. 2h/ week, Pract. 2h/ week)	Acid /base balance& Buffer systems	1,2	6	4	2	
	Body minerals &electrolytes	3,4	6	4	2	
	Chemistry of Heme and heme disorders	5	4	2	2	
	Liver, kidney and cardiac function tests	6,7,8	16	6	10	
	chemistry of body fluids (blood, milk and urine)	9,10,1 1,12	16	8	8	
	Tumor markers	13	4	2	2	
	<b>Total</b>			<b>52</b>	<b>26</b>	<b>26</b>

### 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.

### 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



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

### 7.2. Assessment schedules/semester:

Method	Week(s)
Practical exams	15 <sup>th</sup> 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](http://www.pubmed.com).

**Course Coordinators**

**Head of Department**



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Topic	Week	Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Acid /base balance& Buffer systems	1,2		4		1,2,3,4
Body minerals &electrolytes	3,4	2	4	3	1,2,3,4
Chemistry of Heme and heme disorders)	5	3		2	1,2,3,4
Liver, kidney and cardiac function tests	6,7,8	2	2	3	1,2,3,4
The chemistry of body fluids (blood, milk and urine)	9,10,11,12	1	1	1	1,2,3,4
Tumor markers	13	4	3		1,2,3,4

