



SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine of Iasi
1.2. Faculty	Veterinary Medicine
1.3. Department	IV – Exact Sciences
1.4. Field of study	Veterinary Medicine
1.5. Cycle of study ¹	Bachelor and Master (unitary study programme)
1.6. Specialization/ Study programme	Veterinary Medicine
1.7. Form of education	Full time

2. Information on the discipline

2.1. Name of the discipline	Biochemistry I							
2.2. Course coordinator	Prof. PhD Lucia Carmen Trinca							
2.3. Seminar/ laboratory/ project coordinator	Assistant PhD DVM Andreea Paula Cozma							
2.4. Year of study	I	2.5. Semester	2	2.6. Type of evaluation	Exam	2.7. Discipline status	Content ²	FD
							Compulsoriness ³	CD

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. lecture	2	3.3. seminar/ laboratory/ project	2
3.4. Total number of hours in the curriculum	56	Out of which: 3.5. lecture	28	3.6. seminar/laboratory	28
Distribution of the time allotted					hours
3.4.1. Study based on book, textbook, bibliography and notes					30
3.4.2. Additional documentation in the library, specialized electronic platforms and field					16
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					14
3.4.4. Tutorials					2
3.4.5. Examinations					2
3.4.6. Other activities					
3.7. Total hours of individual study	64				
3.8. Total hours per semester	120				
3.9. Number of credits ⁴	4				

4. Prerequisites (is applicable)

4.1. curriculum-related	Chemistry
4.2. skills-related	The student must have knowledge regarding the basic concepts of chemistry

5. Conditions (if applicable)

5.1. for the lecture	The course is interactive; students can ask questions regarding the content of the presentation.
5.2. for the seminar/ laboratory/ project	Practical works are ensuring practical study and deepening of the main knowledge presented in the lectures; each student will conduct an individual activity using the laboratory materials provided. Each practical work begins with a seminar having as topics the material taught in the previous courses and laboratories.

6. Specific competences acquired

Professional competences	Descriptive biochemistry provides knowledge about the structure and properties of the biochemical compounds involved in either normal/physiological or pathological functioning of the animal body.
Transversal competences	Development of medical thinking and analysis: anamnesis information - examination - diagnosis - therapy

7. Course objectives (based on the list of competences acquired)

7.1. Overall course objective	Acquiring general biochemistry knowledge by focusing on the structure and properties of the main biochemical compounds Developing the ability to work in a biochemistry laboratory and to perform qualitative and quantitative analysis of the main biochemical compounds.
7.2. Specific objectives	To know and master the basic biochemistry knowledge for a veterinarian

8. Semester Content

8.1. LECTURE Number of hours – 28 Descriptive Biochemistry:	Teaching methods	Notes
-Carbohydrates: chemical structure and properties -Lipids: chemical structure and properties -Proteins: chemical structure and properties -Nucleic Acids: chemical structure and properties -Enzymes: chemical structure and properties -Vitamines: chemical structure and properties	Lecture	A two-hour lecture weekly

8.2. PRACTICAL WORK Number of hours – 28 1. Labour protection rules. 2. Calculations used to prepare biochemical solutions. 3-5. Biochemical properties of carbohydrates (mono, di and poly -carbohydrates). 6-7. Biochemical properties of simple and complex lipids. 8-10. Biochemical properties of alpha-aminoacids , peptides and proteins. 11. Biochemical properties of Nucleic Acids. 12-13. Biochemical properties of enzymes. 14. Biochemical properties of vitamins	Theoretical presentation of the practical work, interactive discussions based on the approached theme followed by the execution of the experiments	A 2-hour session weekly
---	--	-------------------------

Compulsory bibliography:

1. Electronic course and practical work support -- PPT presentation

Optional bibliography:

1. D.L. Nelson, M.M.Cox, 2021- *Lehninger Principles of Biochemistry*, 8th Edition, W.H. Freeman Publisher, NY
2. H. J. Fromm, M. Hargrove, 2012 - *Essentials of Biochemistry*. Springer Verlag GmbH
3. J. M. Berg, J.L. Tymoczko, L. Stryer 2002, *Biochemistry*, 5th ed.
4. The Virtual Library of Biochemistry and Cell Biology

9. Corroborating the course content with the expectations of the epistemic community representatives, of the professional associations and of the relevant employers in the corresponding field

The course structure is related to the basic educational program in order to assure to the vet students a solid foundation for the preclinical, paraclinical and clinical learning.
The discipline content is developed in correlation with necessary requirements for "day one skills" and "year one skills"

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	The notions assimilated during the lectures will be evaluated writing in the exam session.	MCQ test + open grid test on the structure and chemical properties of the main biochemical compounds	70 %
10.5. Seminar/Laboratory	Laboratory work assessment must highlight the assimilation degree (theoretical and practical) obtained by the student.	The laboratory evaluation is organized in two tests (solution calculations, chemical properties of the main biochemical compounds). The final grade for the practical work represents the average value of the two tests grades.	30 %
10.6. Minimum performance standards			
Knowing the structure and properties of the main biochemical compounds from the animal body.			

¹ Cycle of studies- choose of the three options: Bachelor/Master/Ph.D.

² Discipline status (content)- for the undergraduate level, choose one of the options:- **FD** (fundamental discipline), **BD** (basic discipline), **CS** (specific disciplines-clinical sciences), **AP** (specific disciplines-animal production), **FH** (specific disciplines-food hygiene), **UO** (disciplines based on the university's options).

³ Discipline status (compulsoriness)- choose one of the options – **CD** (compulsory discipline) **OD** (optional discipline) **ED** (elective discipline).

⁴ One credit is equivalent to 25-30 hours of study (teaching activities and individual study).

Date
12.09. 2021

Course coordinator
Prof. PhD Lucia Carmen Trinca



Practical work Coordinator
Assistant DVM PhD Andreea Cozma



Date
14.09. 2021

Approved by Head of the Department
Lecturer PhD Ciprian Chiruta



Date
17.09. 2021

Approved by Faculty Council