

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

Anexa 6

COURSE SYLLABUS

1. Information on the study programme

1.1 Academic institution	UNIVERSITY OF ORADEA
1.2 Faculty	FACULTY OF ENVIRONMENTAL PROTECTION
1.3 Department	ANIMAL SCIENCE - AGRIOTOURISM
1.4 Field of study	ENGINEERING AND MANAGEMENT IN PUBLIC FOOD AND AGROTOURISM
1.5 Cycle of study	BACHELOR
1.6 Study programme/Qualification	ENGINEERING AND MANAGEMENT IN PUBLIC FOOD AND AGROTOURISM

2. Information on the discipline

2.1 Name of discipline	BIOCHEMISTRY II						
2.2 Course coordinator	Lecturer PhD. GHERGHELEȘ CARMEN GEORGETA						
2.3 Laboratory/Project coordinator	Lecturer PhD. GHERGHELEȘ CARMEN GEORGETA						
2.4 Year of study	I	2.5 Semester	II	2.6 Type of evaluation	E	2.7 Regime of discipline	C

(C) Compulsory; (O) Optional; (E) Elective

3. Total estimate time (hours per semester of didactic activities)

3.1 Number of hours per week	4	out of which: 3.2 course	28	out of which 3.3 seminar/laboratory/project	28
3.4 Total hours in the curriculum	56	out of which: 3.5 course	28	out of which 3.6 seminar/laboratory/project	28
Time allotment					hours
Study assisted by manual, course support, bibliography and notes					15
Additional documentation in the library/ on specialised electronic platforms and in the field					20
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					15
Tutorship					2
Examinations					4
Other activities.....					0
3.7 Total hours of individual study	56				
3.9 Total hours per semester	112				
3.10 Number of credits	4				

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

4. Prerequisites (where appropriate)

4.1 Curriculum	
4.2 Competences	

5. Conditions (where appropriate)

5.1. related to course	Video Projector, computer
5.2. related to seminar/laboratory/ project	Equipment and laboratory reagents specific to laboratory work, computer

6. Specific competences acquired

Professional competences	<ul style="list-style-type: none"> Knowledge of theoretical and practical principles of biochemical analysis techniques. Training the ability to perform and interpret various biochemical analyzes used in veterinary food control, clinical laboratory, pharmaceutical control laboratory, air and water quality monitoring laboratories.
Transversal competences	<ul style="list-style-type: none"> Acquiring basic knowledge to address disciplines such as animal and human physiology, genetics, cell biology, subjects taught during the years of study. Developing the abilities of graduates to organize and carry out laboratory activities as complex as possible.

7. Objectives of discipline (coming from the specific competences acquired)

7.1 General objective	The discipline of Biochemistry aims to provide knowledge from the chemical point of view of life phenomena, research into the chemical nature of cellular components, the structure and properties of structural compounds, as well as the various transformations that take place in the body. Biochemistry is what establishes the connection between organisms and products, clarifies the role and transformations of living cell components
7.2 Specific objectives	

8. Content*/

8.1 Course	Methods of teaching	No. of hours/Remarks
1. Lipids. a) General considerations	Interactive lecture, logic presentation, deductive	2 The student's presence during the course is optional but

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

(1) General classification of lipids (2) The role of lipids in animal organisms (3) General chemical constitution	explanation, and constructive conversation	recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
2. b) Fatty acids Saturated straight chain fatty acids Unsaturated fatty acids	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
3. Hydroxy acids Branched chain fatty acids Physical and chemical properties of fatty acids	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
4. a) Simple lipids (1) Acylglycerols (2) Steroids. Steroid compounds (3) Ceride	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
5. Lipid metabolism. a) Glyceride biosynthesis. b) Catabolism of glycerides.	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

		examination and proposal for expulsion
6. Protein. a) Amino acids. (1) Classification (2) Physical properties (3) Chemical reactions	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
7. b) Peptides (1) Peptide structure (2) Acid-base properties of peptides (3) Chemical properties (4) Natural peptides	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
8. c) Proteins. (1) Protein composition (2) Protein conformation	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
9. (3) General properties of proteins (4) Important proteins	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
10. Protein metabolism. a) Amino acids in the diet b) Oxidative deamination of amino	Interactive lecture, logic presentation, deductive explanation, and	2 The student's presence during the course is optional but recommended.

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

acids	constructive conversation	The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
11. c) Transamination d) Degradation of amino acids produced by microorganisms e) The ureogenetic cycle f) Proteolysis	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
12. Nucleic acids. Nitrogen bases.	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
13. Vitamins. a) Water-soluble vitamins. b) Fat-soluble vitamins	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for expulsion
14. Enzymes. a) Enzymatic specificity. b) Factors influencing enzymatic activity. c) Classification of enzymes	Interactive lecture, logic presentation, deductive explanation, and constructive conversation	2 The student's presence during the course is optional but recommended. The presence of the student in the examination is conditioned by participation in the laboratory works The fraud during examination implies to exclude the student from examination and proposal for

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

		expulsion
Bibliografy		
1. A. L. Lehninger - <i>Biochimie</i> , vol. I and II, Edit. Tehnică, București, 1987, 1992.		
2. G. Drochioiu, I. Mangalagiu, I. Druță – <i>Biochimie generală</i> . Edit. Demiurg, Iași, 2002.		
3. V. Tămaș - <i>Biochimie Medicală Veterinară</i> , Editura Agronomia Cluj – Napoca, 1988		
4. Jeremy M. Berg, John L. Tzmoczko, Lubert Stryer – <i>Biochimie</i> , Berlin, Spektrum Akademischer Verlag GmbH Heidelberg 2003		
8.2 Seminar	of teaching	No. of hours/ Remarks
1. Monoglyceride identification reactions. Identification reactions of pentoses, diglucides; Starch recognition reaction.	-	-
2. Water, raw material for the food industry - Physical methods of analysis - Chemical methods of analysis	Problem-solving, explanation, modeling	2
3. Lipids: Identification of sterols and fatty acids.	Problem-solving, explanation, modeling	2
4. Determining the refractive index of edible fats and oils; Determination of the melting point by sliding.	Problem-solving, explanation, modeling	2
5. Determination of free acidity by potentiometric titration of oils.	Problem-solving, explanation, modeling	2
6. Identification reactions for amino acids and proteins.	Problem-solving, explanation, modeling	2
7. Separation of proteins by precipitation at isoelectric pH. Isolation of casein from milk.	Problem-solving, explanation, modeling	2
8. Methods for determining the pH of meat	Problem-solving, explanation, modeling	2
9. Determining the composition of the meat.	Problem-solving, explanation, modeling	2
10. Determination of substances added to meat and meat products.	Problem-solving, explanation, modeling	2
11. Determination of acidity of milk and dairy products Determination of milk density	Problem-solving, explanation, modeling	2
12. Determination of the fat content of milk, dairy products and by-products	Conversation	2
13. Vitamin identification reactions	Conversation	2
14. Laboratory colloquium	Conversation	2
Bibliography		
Alfa Xenia Lupea, Mirabela Padure, Carmen Ionescu – <i>Elemente de biochimie și analiză a unor produse alimentare</i> , Editura Universității din Oradea, 2003		

Universitatea din Oradea	PROCEDURA pentru inițierea, aprobarea, monitorizarea și evaluarea periodică a programelor de studii	COD: SEAQ PE – U. 01						
			4	5	6	7	8	9
			Aprobat în ședința de Senat din data: -- 03.03.2014					

Camelia Bara, Cornelia Tonț, Carmen Ionescu: *Microbiologia și controlul calității laptelui și a produselor lactate*, Ed. Universității din Oradea, 2001, ISBN 973-8219-46-9
Ionescu Carmen, O. Henegariu. L. Bara, G. Ciobanu: *Tehnologii de prelucrare și microbiologie a produselor agroalimentare* Ed. Universității din Oradea, 2001, ISBN 973-8193-06-0

* The content, respectively the number of hours allocated to each course / seminar / laboratory / project will be detailed during the 14 weeks of each semester of the academic year.

9. Corroboration of discipline content with the expectations of the epistemic community, professional associations and representative employers from the field corresponding to the study programme

- The content of the discipline is in line with what is done in other university centers in the country and abroad.
- The content of the discipline is found in the curriculum of the Animal Science and Agriotourism specialization and from other university centers that have accredited these specializations..

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
10.4 Course	Evaluation of theoretical knowledge acquired	Exam - write test	100%
10.5 Seminar	-	-	-
10.6 Laboratory	-	-	-
10.7 Project			
10.8 Minimum standard of performance			
<ul style="list-style-type: none"> • Minimum 7 - the project evaluation • Minimum 5 - exam 			

Issuing date

Signature of course coordinator
lecturer PhD. **Ghergheles Carmen**
(i_carmen_g@yahoo.com)

Signature of laboratory coordinator
lecturer PhD. **Ghergheles Carmen**
(i_carmen_g@yahoo.com)

Date of approval in the department

Director of Department Signature
Assistant professor PhD.eng. **Maurescu Cristina Maria**
(cristina_maurescu@yahoo.com)

Dean signature
Prof. PhD.eng. **CHEREJI IOAN**