

Information sheet for the course Biochemistry II.

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of Health Care</i>	
Course unit code: <i>Bioch2/d</i>	Course unit title: <i>Biochemistry II.</i>
Type of course unit: <i>compulsory</i>	
Planned types, learning activities and teaching methods: <i>Lecture: 2 hours weekly/26 hours per semester of study; full-time</i> <i>Seminar: 4 hours weekly/52 hours per semester of study; full-time</i>	
Number of credits: 3	
Recommended semester: <i>2nd semester in the 1st year (full-time)</i>	
Degree of study: <i>I (bachelor)</i>	
Course prerequisites: <i>Biochemistry I.</i>	
Assessment methods: - <i>student obtains credits after the full time participation in the laboratory exercises and the written elaboration of protocols from laboratory exercises. The final evaluation shall take into account the complex individual approach of the student, the quality of the protocols (maximum score: 20) and active approach to laboratory tasks quantified verifiable indicators of acquired laboratory skills (max. 5 points). Student obtains from the part of laboratory exercises together a maximum of 25 points. If not drawn up any of the specified protocols and / or replacement by the absence the student is classified by assessment Fx. It is also classified in the case of a lower number of points as 25th</i> - <i>written or oral examination (25 score points)</i> - <i>for obtaining the particular grades it is necessary to achieve:</i> <i>at least 45 score points for the grade A</i> <i>at least 40 score points for the grade B</i> <i>at least 35 score points for the grade C</i> <i>at least 30 score points for the grade D</i> <i>at least 25 score points for the grade E</i>	
Learning outcomes of the course unit: <i>The student will acquire knowledge by studying the principles of biochemical processes in the metabolism of nutrients and mechanisms of regulation of these processes at the cellular and organisms' level.</i>	
Course contents: Lecture: <ol style="list-style-type: none"><i>1. Basic principles of biochemical processes in the metabolism of nutrients</i><i>2. Metabolic pathways, ATP</i><i>3. Glycolysis</i><i>4. The citric acid cycle</i><i>5. Oxidative phosphorylation</i><i>6. Electron Transport Chain</i><i>7. Gluconeogenesis</i><i>8. Pentose cycle</i><i>9. Lipid metabolism</i><i>10. Metabolism of amino acids</i><i>11. Protein synthesis</i><i>12. Metabolism of nucleotides</i>	

Seminar:

1. *Preanalytical Phase - preparing of the patient for sampling (capillary, venous), preparation of the sampling material, handling with biological materials*
2. *Preanalytical Phase – realization of preanalytical phase,*
3. *Preanalytical Phase - fatal errors*
4. *Biochemical analysis of urine samples - comparison of the results of chemical analysis and diagnostic strips*
5. *Biochemical analysis of urine samples - comparison results of diagnostic strips from different manufacturers, comparison of their manual and automatic evaluation*
6. *Biochemical analysis of urine samples - native microscopy and stained urinary sediment*
7. *Electrophoretic separation of selected analytes*
8. *Evaluation of electrophoreograms*
9. *Processing of results of control materials*
10. *Point of Care Testing I*
11. *Point of Care Testing II*
12. *Point of Care Testing III*

Recommended of required reading:

1. ZAHRADNÍK, P., KOLLÁROVÁ, M.: 1997. *Prehľad chémie 2, Organická chémia a biochémia*. Bratislava: SPN, 1997. 325 p. ISBN 80-08-01005-3
2. VOET, D. 1990. *Biochemie*. Praha : Victoria Publishing, 1990. 1325 p. ISBN 80-85605-44-9.

Language: *Slovak***Remarks:** -**Evaluation history:** *Number of evaluated students -*

A	B	C	D	E	FX
-	-	-	-	-	-

Lectures: *RNDr. Zdenka Krajčovičová, PhD., Ing. Jana Netriová, PhD.***Last modification:** *22.4.2014***Supervisor:** *doc. MUDr. Jana Slobodníková, CSc.*