COURSE INFORMATION SHEET

University: Catholic University in Ružomberok

Faculty: Faculty of Health

Course code: KOSE/54O1002W/15	**Course title:** Biochemistry

Type and range of planned learning activities and teaching methods:
Form of instruction: Lecture
Recommended study range:
hours weekly: 1 **hours per semester:** 12
Teaching method: on-site
(distance method according to the document Príkaz rektora P-8/2020 since 15. 10. 2020)

Credits: 2

Recommended semester/trimester: 1.

Level of study: I.

Prerequisities:

Requirements for passing the course:
During the semester: During the semester, active participation in the lecture, in which students analyze the assigned topics.
Final evaluation: At the final written exam the student can get max. 50 points.

Learning outcomes of the course:
Acquire basic knowledge about biochemistry, the biochemical nature of the disease.
Theoretical knowledge: To teach students to perceive the human organism as a whole, whose biochemical reactions taking place at different levels are closely related to each other. The student will gain a comprehensive knowledge of biochemical processes in the human body. The nursing student will understand the importance of the pre-analytical phase, the types of sampling tubes, the principles of proper collection of the most frequently examined biols. materials, possible sources of error. They will get acquainted with the methods of evaluation of laboratory results, reference values.

Course contents:
Characteristics of the department. Biological and toxicological properties of elements and their compounds, their use in medical practice.
Structure and function of biological membranes, transport of substances. Hydrocarbons and their derivatives.
Characteristics and metabolism of carbohydrates.
Characteristics and metabolism of lipids. The role of cholesterol in human metabolism.
Biological oxidations, energy production, endergonic and exergonic reactions.
Structure and function of proteins. Significance and function of nucleic acids.
Division and function of hormones.
Structure and function of hemoglobin, bilirubin, porphyrins.
Distribution and function of vitamins.
Enzymology. Clinical significance of laboratory examination of tumor markers.
Pre-analytical phase, types of sampling tubes, principles of correct sampling of the most frequently examined biol. materials, possible sources of error. Methods of laboratory result evaluation, reference values.

Modern diagnostic and analytical methods in clinical biochemistry, use of computer technology in clinical biochemistry, certification, accreditation.

Recommended or required literature:

DOBROTA, D. a kol. Lekárska biochémia. Martin: Osveta, 2012.
LEDVINA, M. – STOKLASOVÁ, A. – CERMAN, J. Biochemie pro studující medicíny. 1. 2. Praha: Karolinum, 2009.
SURŽIN, J. Lekárska biochémia. Prešov: Michal Vaško, 2002.
ŠAJTER,V. a kol. Biofyzika, biochémia a radiológa. Martin, Osveta, 2006.

Language of instruction:

Slovak language

Notes:

The course is taught only in the winter semester and is evaluated only in the relevant examination period of the winter semester of the academic year.

Course evaluation:

Assessed students in total: 556

A	B	C	D	E	FX
43.71	21.04	13.13	6.12	11.33	4.68

Name of lecturer(s): MUDr. Jaromír Tupý, PhD.

Last modification: 13.03.2021

Supervisor(s): doc. PhDr. Mgr. Helena Kadučáková, PhD.