COURSE UNIT INFORMATION FORM

University: Comenius University in Bratislava
Faculty: Jessenius Faculty of Medicine in Martin

<table>
<thead>
<tr>
<th>Subject code:</th>
<th>Name of the subject: Medical chemistry 1</th>
</tr>
</thead>
</table>

Form, extent and method of teaching activities: Lecture/Practical
- Extent (in hours) – per week: 1.5/1
- Method - attendance form

Number of credits: 3 credits
Recommended semester/trimester of study: 1st semester
Level of study: joint 1st and 2nd level (MUDr.)
Prerequisites: -

Subject completion requirements:
Evaluation of students is performed as a written exam, minimal level to pass: 60 %.

Learning outcomes:
After completion of the subject student gains essential informations about biologically important compounds and about rules of chemical processes in the living systems. Student understands the principles of bioenergetics and enzyme kinetics and rules for chemical reactions in aqueous solutions. Completion of the subject also contributes to understanding of relationship between structure and function of biologically important compounds. Student is able to apply knowledge gained on the lectures and seminars at learning of biological oxidations, metabolism of compounds and acid-base equilibrium of body fluids.

Brief syllabus:
- Biologically important elements and their compounds. Weak noncovalent interactions and their importance for biopolymers and biological membranes.
- Thermodynamics and living systems. Entropy, Gibbs free energy and coupled reactions in living systems.
- Rate of chemical reactions. Types of reactions and their importance in metabolic pathways. Kinetics of enzyme reactions, enzyme inhibition.
- Chemical properties and biological importance of amino acids, peptides and proteins. Relationship between structure and function of proteins. Chemical properties and biological importance of myoglobin and hemoglobin.
- Chemical properties and biological importance of saccharides and their derivatives.
- Chemical properties and biological importance of triacylglycerols, phospholipids, sphingolipids and steroids.

Recommended literature:

Language of instruction needed for subject completion: English language
Notes: ---

Teachers: prof. RNDr. Ján Lehotský, DrSc. (garant), prof. MUDr. Dušan Dobrota, CSc., prof. RNDr. Peter Kapláň, CSc., prof. RNDr. Peter Račay, PhD., doc. RNDr. Eva Babušková, PhD., doc. Ing. Zuzana Tatarková, PhD., RNDr. Jozef Hatok, PhD.

Date of the last modification: 30.9.2015
Approved by: prof. MUDr. Dušan Dobrota, CSc