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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | |  | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **PHARMACY** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | **MEDICAL BIOCHEMISTRY** | | |
| Level of study | | | | Bachelor  Master’s  Doctoral  **☐ Academic integrated study** | | |
| Type of course | | | | **Obligatory**   Elective | | |
| Semester | | | | **Autumn** Spring | | |
| Year of study | | | | 4th | | |
| Number of ECTS allocated | | | | 8 | | |
| Name of lecturer/lecturers | | | | Full. Prof. Dusica Pavlovic, Full. Prof. Gordana Kocić, Full. Prof. Tatjana Cvetkovic, Assoc. Prof. Ivana Stojanovic, Assoc. Prof. Tatjana Jevtovic-Stoimenov, Assoc. Prof. Dusan Sokolovic, Ass. Prof. Jelena Basic, Ass. Andrej Veljkovic, Ass. Milena Despotovic, Ass. Branka Djordjevic | | |
| Teaching mode | | | | **Lectures**  Group tutorials  Individual tutorials  **Laboratory work**  Project work  Seminar  Distance learning  Blended learning  Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Course aims:*   * understand the biochemical mechanisms in a disease onset in the context of biochemical basis of metabolic disorders; * understanding the properties and reactivity of biomolecules at the molecular level; * investigation and measurement of biochemical changes in human diseases;   *Course outcomes:*   * recognize specific disease markers and, based on them, is able to interpret the course and prognosis of a disease, * be able to understand the methods of current genetic, proteins, lipids and carbohydrates analyses in diagnosis and therapy * develop problem-solving capacity adopting the doctrine of evidence-based medicine | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Proteins:** Structure, division, and roles; protein life cycle, genomics and proteomics, posttranslational modification, chaperon systems, protein misfolding; Proteins of the blood; Diagnostic significance of tissue and body fluids proteins; **Enzymes:** hyperfermentemia; enzymes in clinical diagnosis and disease prognosis; **Carbohydrates:** Regulation of glycemia, organs involved in glycemia regulation: role of the liver and kidneys; disorders of carbohydrate metabolism, diabetes mellitus type 1 and type 2; therapeutical aspects; **Lipids:** metabolism of lipids in adipose tissue and regulation of synthesis and breakdown (hormones and adipocytokines); congenital metabolic disorders, obesity; blood plasma lipoproteins, separation methods, structure, functional significance; hyperlipoproteinemias; **Water, electrolytes, and acid-base status:** diagnostic significance and regulation methods; **Calcium, phosphorus, magnesium, and iron:** role and diagnostic; **Liver function examination; Kidney function examination;** **Biochemical blood analysis:** Organic and inorganic blood ingredients; blood cells; **Nutritional therapy:** metabolism in starving, biochemical surveillance of nutritional status, total parenteral nutrition, application routes, commercial preparations. | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| **Serbian (complete course)  English (complete course)**   Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)  Serbian with English mentoring Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **ASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Activity during lectures** | **5** | | **Written examination** | | |  |
| **Practical teaching** | **10** | | **Oral examination** | | | **50** |
| **Teaching colloquia** | **35** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |