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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | |  | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **integrATED ACADEMIC STUDIES OF DENTISTRY** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | **Biochemistry and oral biochemistry** | | |
| Level of study | | | | ☐Bachelor ☐ Master’s ☐ Doctoral  **☐ Academic integrated study** | | |
| Type of course | | | | **☐ Obligatory** ☐ Elective | | |
| Semester | | | | ☐ Autumn **☐Spring** | | |
| Year of study | | | | 1st | | |
| Number of ECTS allocated | | | | 8 | | |
| Name of lecturer/lecturers | | | | Gordana Kocić, professor; Dusica Pavlovic, professor; Tatjana Cvetkovic, professor; Ivana Stojanovic, associate professor; Tatjana Jevtovic-Stoimenov, associate professor , Dusan Sokolovic, associate professor; Jelena Basic, assistant professor; Andrej Veljkovic, assistant; Milena Despotovic, assistant; Branka Djordjevic, assistant. | | |
| Teaching mode | | | | ☐**Lectures**  ☐Group tutorials ☐ Individual tutorials  ☐**Laboratory work** ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| Through the study of biochemical processes in cells and tissues, a student should gain knowledge about:   * specific characteristics of biochemical processes in human body * structure and mechanisms of action of enzymes and vitamins * anabolism and catabolism of carbohydrates and lipids * metabolism of amino acids and non-protein nitrogen compounds * structure and function of simple and complex proteins * metabolism of water and minerals * biochemistry of tissues and structures in the mouth cavity and body fluids (blood, urine, saliva) * biochemical composition of teeth, biochemistry of saliva, dental plaque, significance of proper nutrition for mouth cavity structures, and mechanisms of their protection | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Enzymes:** General properties of enzymes, chemical structure and mechanism of enzymatic catalysis; **Vitamins:** General properties and significance of vitamins; Vitamin disbalance; **Metabolism of carbohydrates:** General properties, division, and significance of carbohydrates; **Metabolism of fats:** General properties and roles of fat. Digestion and resorption of fats; **Transport of substances and biologic membranes; Metabolism of proteins and amino acids:** General properties and significance of amino acids; **Simple and complex proteins:** Protein structure; **Nucleoproteids:** DNA organisation: structure of chromosomes and genes, characteristics of genetic code; **Chromoproteids:** Hemoglobin and porphyrine metabolism. Structure of hemoglobin and its significance; hemoglobinopathies; **Metabolism of water and minerals:** Significance and distribution of water within the body (dehydration and hyperhydration); **Hormone biochemistry.** Mechanism of action of hormones. **Biochemistry of tissues and body fluids. Blood:** Plasma proteins (albumins, globulins, fibrinogen). **Oral biochemistry:** Biochemical composition of teeth. Biochemistry of saliva. Dental plaque. Significance of nutrition for oral structures and mechanisms of protection. | | | | | | |
| **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** | **10** | | **Written examination** | | | **20** |
| **Practical teaching** | **20** | | **Oral examination** | | | **50** |
| **Teaching colloquia** | **/** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |