|  |
| --- |
|  **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**  |