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| **Study program** Undergraduate Studies |
| **Course title** Chemistry of the senses (H120C) |
| **Name of lecturer/lecturers**  Snežana Jevtović |
| **Type of course** Elective |
| **Number of ECTS allocated 4** |
| **Course objectives** To introduce the student with the mechanisms of action of various chemical substances on the chemical senses. Connected knowledge about the physico-chemical characteristics of selected organic molecules with interactions at the organ level senses of taste, smell and touch. |
| **Course outcomes**. After completing the course, the student will be able to make a logical connection between chemical structure and the sensation that compound causes. |
| **SYLLABUS***Lectures* Definition and claassification of chemical senses and chemoreceptors according to the site of action and according to the type of stimulus they receive. The study of chemoreceptors specialized for the detection of different submodalities of chemical energy: localized on the tongue to recognize specific molecules in food (sensation - taste); located in mucous membranes of the nose that detect volatile molecules from the air (sensation - smell) and other specific one’s human chemoreceptors. Overall organoleptic experience when consuming food (aroma): orthonasal and the retronasal route. The relationship between the structure of odorous (volatile) compounds and the sense of smell. Chemical characteristics of taste-causing compounds. Biochemical and chemical processes for aroma compounds forming. Aroma value, sensitivity (detection) threshold and aroma defects. Chemesthesis as a special form sensation: interaction with receptors for touch, pain and heat. Astringent, cooling/warming and burning sensations. Definition and study of pheromones from the chemical aspect and from the aspect of action on other person's receptors. Adaptive content on the isolation and analysis of compounds that cause said sensations*.* |
| **References**1. H.N. J Schifferstein, P. Hekkert, Product Experience, Elsevier, 20082. S. Šiler Marinković, Hemija hrane, Tehnološko-metalurški fakultet, Beograd, 20153. V. Mitić, V. Stankov Jovanović, Analiza životnih namirnica, Prirodno-matematički fakultet Niš, 2015 4. H.-D. Belitz, W. Grosch, P. Schieberle, Food Chemistry, Springer, 2009 |
| **Active teaching classes** | **Lectures 30** | **Laboratory work**  |
| **Teaching mode** Lectures, colloquiums, seminars, consultations |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 10 | Written examination | 50 |
| Practical teaching | / | Oral examination | / |
| Colloquiums | 30 |  |  |
| Seminars | 10 |  |  |