



|  | | UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik | | | |  | |
|---|--------------------|--|---|--------------------|----------------------|---|-------------------|
| | | Study programme: <i>Chemical Engineering and Technology</i> | | | | | |
| | | Cycle I | | Year IV | | | |
| Course title | | Application of Food Additives in Food Production | | | | | |
| Department | | Department for Food Technology – Faculty of Technology Zvornik | | | | | |
| Course code | | Course status | | Semester | | ECTS | |
| 04-2-113-7 | | Elective | | VII | | 4 | |
| Teacher | | Dragan Vujadinović, PhD, associate professor | | | | | |
| Teaching assistant | | Milan Vukić, PhD, assistant professor | | | | | |
| Number of hours/ teaching workload (per week) | | | Individual student workload (in hours per semester) | | | Student workload coefficient S ₀ | |
| Lectures | Auditory exercises | Laboratory exercises | Lectures | Auditory exercises | Laboratory exercises | S ₀ | |
| 2 | 0 | 2 | 30 | 0 | 30 | 1.00 | |
| 2*15+0*15+2*15=60 hours | | | (2*15*1.00+0*15*1.00+2*15*1.00)=60 hours | | | | |
| Total course workload 60 + 60=120 hours per semester | | | | | | | |
| Learning outcomes | | After finishing the course, students will be able to: <ol style="list-style-type: none"> safely apply food additives, colors and flavors in food production implement legal regulations for the use of color and flavor additives in food products monitor the influence and technology of application of additives, colors and aromas on the properties of food products. | | | | | |
| Prerequisites | | | | | | | |
| Teaching methods | | Lectures, laboratory exercises, seminar paper, case studies, practical exercises. | | | | | |
| Syllabus per week outline | | <ol style="list-style-type: none"> Introduction. Food and the importance of the use of food additives. Classification, physical and chemical properties and technological role of food additives. Criteria for the safe use of food additives. Antioxidants and their influence on product quality. Selection of antioxidants. Sweeteners, Polyhydroxy alcohols, Saccharin, Cyclamates, Aspartame, Acesulfame-K. Stevioside, Thaumatin, Neohesperidin dihydrochalcone, Sucrose, RTI-001. Flavors, Natural flavors, Synthetic flavors. Colors, Natural colors, Synthetic colors. Preservatives. The most important preservatives, their influence on product sustainability, toxicological aspects. Enzymes. Selection of enzymes for food application. Vitamins as food additives. Emulsifiers, emulsifiers of natural origin, micellar colloids. Requirements regarding purity and safety of pure additives. The influence of food additives on human health. Legal regulations related to the use of color and flavor additives in food products. | | | | | |
| Obligatory reading | | | | | | | |
| Author | | Title, publisher | | Year | Pages | | |
| Grujić, S. | | Prehrambeni aditivi-Funkcionalna svojstva i primjena, Tehnološki fakultet, Banja Luka | | 2005 | 9-213 | | |
| Additional reading | | | | | | | |
| Author | | Title, publisher | | Year | Pages | | |
| Baines, D., and Seal, R. | | Natural food additives, ingredients and flavourings, Woodhead Publishing Limited, Philadelphia, USA | | 2012 | (488) | | |
| Watson, D.H. | | Food chemical safety, Vol. 2 Additives, CRC Press, New York, USA | | 2000 | (1-308) | | |
| Obligations, assessment | | Type of student evaluation | | | | Grade points | Percentage |

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|-----------------------------------|--------------------------|-----|-------|
| methods and grading system | Pre-exam obligations | | |
| | Attendance | 6 | 6 % |
| | Mid-term test I | 20 | 25 % |
| | Mid-term test II | 20 | 25 % |
| | Laboratory exercise | 24 | 24 % |
| | Final examination | | |
| | Final examination (oral) | 30 | 30 % |
| | Total | 100 | 100 % |
| Web page | www.tfzv.ues.rs.ba | | |
| Date | 2023 | | |