



|  | | UNIVERSITY OF EAST SARAJEVO Faculty of Technology | | | |  | | |
|---|----|---|---|----------|-----------------|---|--|--|
| | | Study program: Chemical Engineering and Technology / Food Technology | | | | | | |
| Course title | | MICROBIOLOGICAL METHODS FOR FOOD ANALYSIS | | | | | | |
| Department | | Department of Food Technology - Faculty of Technology | | | | | | |
| Course code | | Status | | Semester | | ECTS | | |
| TF-1-2-HIT-02-2-062-1-6-2-2 | | elective | | I | | 6 | | |
| Teacher | | Dragan Vujadinović, PhD, Assistant Professor | | | | | | |
| Associate | | Vesna Gojković, MSc, Senior Assistant | | | | | | |
| Fund of classes / teaching load (weekly) | | | Individual student workload (in semester hours) | | | Student workload coefficient S_0 | | |
| P | AV | LV | P | AV | LV | S_0 | | |
| 2 | 0 | 2 | 45 | 0 | 45 | 1.50 | | |
| total teaching load (in hours, semester) $2 * 15 + 0 * 15 + 2 * 15 = 60$ h | | | total student workload (in hours, semester) $2 * 15 * 1.50 + 0 * 15 * 1.50 + 2 * 15 * 1.50 = 90$ | | | | | |
| Total workload of the course (teaching + student): $60 + 90 = 150$ hours semester | | | | | | | | |
| Learning outcomes | | Student will show knowledge / abilities to: <ol style="list-style-type: none"> 1. understand characteristics of different groups of microorganisms important for production and control food; 2. consider what impact they can have on product quality; 3. masters the methods of their isolation and identification, 4. examines the microbiological correctness of the product; 5. evaluate the obtained results independently and in a group discussion; 6. develops critical and creative thinking about the material of the module; | | | | | | |
| Conditionality | | | | | | | | |
| Teaching methods | | Lectures, laboratory work | | | | | | |
| Syllabus outline per week | | <ol style="list-style-type: none"> 1. Introduction to microbiological methods of food analysis. Bacteria and fungi as indicators of quality and food safety. 2. Characteristics of different groups of microorganisms necessary for quality control and quality food. 3. Properties of microorganisms on the basis of which they can be separated and identified in food. 4. Legislation. Ordinance on microbiological criteria for food. 5. Microbiological methods and bases for identification and isolation of different groups of microorganisms. 6. Conformational biochemical and immunochemical microbiological tests. 7. Determination of the total number of aerobic and anaerobic microorganisms. 8. Determination of sporogenic and lipolytic bacteria. 9. Identification and isolation of coliform bacteria. 10. Determination and identification of psychotrophic and thermoresistant microorganisms. 11. Methods of determination and identification of acidogenic and osmophilic microorganisms. 12. Microbiological procedures for identification and determination of halophilic and proteolytic bacteria. 13. Determination and identification of yeasts and molds. 13. Basic methods and procedures for isolation and identification of pathogenic bacteria. 14. Microbiological control methods in food production. 15. Methods for qualitative and quantitative determination of mycotoxins. Maximum allowable concentration (MAC) of mycotoxins. | | | | | | |
| Obligatory literature | | | | | | | | |
| Author / s | | Title of publication, publisher | | Year | Pages (from-to) | | | |
| Radulović, Z., Petrušić, M. | | Microbiological methods of food analysis, Faculty of Agriculture, University of Belgrade, Belgrade, Serbia. | | 2011 | 1-152 | | | |
| Sl. Glasnik BIH 11/13. | | Ordinance on microbiological criteria for food | | 2013 | 31-52 | | | |
| Sanchias, AV, Allaert, VC, As-Almenar, I. VI., Sala, MN, Torres, GM | | Practicum in food microbiology, University of Lleida, Catalonia-Spain, University of Banja Luka, University of Tuzla | | 2001 | 1-113 | | | |
| Sarić Z. | | Practicum in microbiology, Science, Belgrade. | | 1992 | 1-199 | | | |
| Supplementary literature | | | | | | | | |
| Author / s | | Publication title, publisher | | Year | Pages (from-to) | | | |

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|---|---|------|---------------|-------------------|
| Microbes. Info | http://www.microbes.info/resources/General%20Microbiology/ | - | - | |
| Fernandes, R. | Microbiology handbook, Fish and seafood, Leatherhead Food International Ltd and Royal Society of Chemistry, UK | 2009 | 1-270 | |
| Roberts, D., Greenwood, M. | Practical Food Microbiology, third edition, Blackwell Publishing Ltd, USA | 2003 | 1-290 | |
| Obligations, assessment methods and grading system | Type of student work evaluation | | Points | Percentage |
| | Pre-examination obligations | | | |
| | attendance at lectures / exercises | | 6 | 6% |
| | colloquium 1 | | 20 | 20% |
| | colloquium 2 | | 20 | 20% |
| | Laboratory exercises | | 24 | 24% |
| | Final exam (oral) | | 30 | 30% |
| | TOTAL | | 100 | 100% |
| Website | www.tfzv.ues.rs.ba | | | |
| Date | | | | |