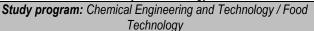
18. 18. 2 VIC E

UNIVERSITY OF EAST SARAJEVO

Faculty of Technology



III year of study



Course title FOOD MICROBIOLOGY

Department Department of Food Technology - Faculty of Technology

Cycle I

| Course code Course | status | Semester | ECTS | |
|---|------------|----------|------|--|
| TF-1-1-HIT-04-1-103-6-7-3-3 | obligatory | VI | 5 | |
| T D V V V D D A V V D C | | | | |

Teacher Dragan Vujadinović, PhD, Assistant Professor
Teaching
assistant
Vesna Gojkovic, MSc, Senior assistant

| teaching hours / teaching load (per week) | | Individual workload (in hours per semester) | | | Student workload coefficient So | |
|---|----|--|--|----|---------------------------------|------|
| Р | AV | LV | Р | AV | LV | So |
| 2 | 0 | 2 | 45 | 0 | 45 | 1.50 |
| total workload (in hours, the term) | | | total student workload (in hours , semester) | | | |
| 2 * 15 + 0 * 15 + 2 * 15 = 60 h | | | 2 * 15 * 1.50 + 0 * 15 * 1.50 + 2 * 15 * 1.50 = 90 | | | |

Total workload of the course (teaching + student): 60 + 90 = 150 hours per semester

Learning outcomes

Student will show knowledge / abilities to:

- 1. understands the basic principles of food microbiology;
- 2. explain how external and internal factors in food and storage affect the survival and growth of microorganisms;
- 3. understands the occurrence of spoilage of food products of animal and plant origin;
- 4. distinguishes pathogens from non-pathogenic microorganisms in food by isolation and procedures identification:
- 5. identify sources and determine pathogens as well as microorganisms that cause food spoilage;
- 6. describe methods of protection of foodstuffs from microbiological spoilage;
- establish corrective procedures for the control of pathogenic microorganisms and microflora of food products.

Conditionality

Teaching methods Lectures, laboratory exercises

- Introduction and historical development of food microbiology. Sources of microorganisms in food. Characteristics of dominant groups of microorganisms in food: bacteria, viruses, yeasts and molds.
- Microbial ecology of food. Typical spoilage processes. Determination of microorganisms in foods
- 3. Characteristics of pathogenic microorganisms important for food safety *Staphylococcus* aureus, *Clostridium botulinum*, *Listeria monocytogenes*, *E. Coli*, *Campylobacter sp.*, *Salmonella spp.* and others.
- 3. Microbiological diseases originating from food: intoxications, mycotoxicosis, toxicoinfections, infections.

Syllabus outline per week

- 4. Suppression of microbiological spoilage principles and methods of protection. Natural protection of food from microbiological spoilage.
- 5. Microbiological indicators of food quality and safety, standards.
- Microbiological spoilage of basic groups of food products. Microbiology of drinking water.
- 7. Microbiology of fermented foods, milk and dairy products.
- 9. Microbiology of meat and meat products.
- 10. Microbiology of poultry, eggs and egg products. Microbiology of fish and seafood.
- 11. Microbiology of fruits and vegetables.
- 12. Microbiology of spices, oilseeds and cereals.
- 13. Microbiology of canned foods.
- 14. Application of starter cultures in food production.
- 15. Mycotoxicogenic molds and mycotoxins in food products.

| Required literature | | | | |
|--|---|------|-----------------|--|
| Author / s Title of publication, publisher | | | Pages (from-to) | |
| Duraković S., Delaš F., | Modern food microbiology - book one. University | 2002 | 1-450 | |

| Stilinović B., Dural | ković L. | ić L. textbook (ed. S. Duraković). Kugler d.o.o., Zagreb. | | | | |
|--------------------------------|-----------------------------|--|------------|--------|--------------|--|
| Duraković S., Delaš F., | | Modern food microbiology - book two. University | | | 1-400 | |
| Duraković L | | textbook (ed. S. Duraković). Kugler d.o.o., Zagreb. | 2002 | | 1-400 | |
| Sanchias, AV, Allaert, VC, As- | | Practicum in Food Microbiology, University of Lleida, 200 | | | 1 -113 | |
| Almenar, I. VI., Sala, MN, | | Catalonia-Spain, University of Banja Luka, University of | | | | |
| Torres, GM | | Tuzla | | | | |
| | | Additional literature | | | | |
| Author / s | | Publication title, publisher | Year | Pag | es (from-to) | |
| Microbes. Inf | fo | http://www.microbes.info/resources/General%20Microbiology/ | 1 | | - | |
| 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 | | 1-290 | |
| | | Type of student work evaluation | | Points | Percentage | |
| | Pre-examination obligations | | | | | |
| Oblinations forms | | attendance at lectures / exercises | | | 6% | |
| Obligations, forms | | colloquium 1 | | | 20% | |
| of knowledge assessment and | | colloquium 2 | | | 20% | |
| grading | | Laboratory exercises | | | 24% | |
| grading | Final exam | | | | | |
| | | Final exam (oral) | | | 30% | |
| | TOTAL | TOTAL | | | 100% | |
| Website | www.tfzv. | <u>rfzv.ues.rs.ba</u> | | | | |
| date | | | | | | |