**General information**

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| Course title: | The technology of cleaning and desinfection |
| ISVU[[1]](#footnote-1) course code: | 38330 |
| Studies in which the course is taught: | Food processing technology |
| Course Instructor: | Marijana Blažić, PhD, Assistant Professor |
| Course Assistant: | / |
| ECTS credits: | 4.0 |
| Semester of the course execution: | III |
| Academic year: | 2022/2023 |
| Exam prerequisites: | / |
| Lectures are given in a foreign language: | / |
| Aims: | During the course students adopt knowledge and skills of basic technology of cleaning and disinfection of food plants, cleaning quality control and disinfection (chemical and microbiological control) and basis of legislative. Completion the course enable students quality knowledge of the factors that can affect quality of production in food processing industry. |

**Course**

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| Course structure | Number of contact hours per week: | Number of contact hours per semester: | Student’s requirements by type of teaching: |
| Lectures: | 2 | 30 | Lecture attendence 80% |
| Tutorials: |  |  |  |
| Practical (lab) sessions: | 2 | 30 | Exercises attendance 80% |
| Seminars: | / |  |  |
| Field work: | / |  |  |
| Other: | / |  |  |
| TOTAL: | 4 | 60 |  |

**Monitoring of students' work, knowledge evaluation and learning outcomes**

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| Formation of the grade during the implementation of teaching:  (Define from minimum 5 to maximum 10 learning outcomes) | **LEARNING OUTCOMES**  (upon completion of the course the student should be able to:) | **FACTORS AFFECTING THE GRADE** (e.g. term paper, practical work, presentation, ...) | **MAXIMUM NUMBER OF POINTS PER FACTOR** |
| I1: Know the microorganisms causes of food spoilage | Attendance  (active participation) |  |
| I2: Identify risks during processing and handling of food | Term paper |
| I3: Assess the hygienic condition of the plant | Written Exam |
| I4: Apply the proper sanitation plan in food production facilities | Oral Exam |
| I5: Understand and apply legislation related to food production | Practical work |
| I6: Write the HACCP plan |  |
| Alternative formation of the grade  ( I 1 – I 10) | **or alternative formation of the grade: I 1 – I 16** | | TOTAL: 100 points |
| Students' competencies |  | | |

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| Prerequisites for course approval (lecturer’s signature): | Student attendance |
| Prerequisites for taking exams: | Signature |
| Grading scale: | (According to the Regulations on student assessment of Karlovac University of Applied Sciences, Article 9, Paragraph 5) 90-100 - excellent (5) (A) 80 to 89.9 - very good (4) (B) 65 to 79.9 - good (3) (C) 60 to 64.9 - sufficient (2) (D) 50 to 59.9 - sufficient (2) (E) 0 to 49.9 – fail (1) (F)  Students are graded during class, what forms 70% of final exam. Students who achieve 50% (35 points) and more are allowed to take the final exam. The score on final exam makes 30% of the final grade. |

**ECTS structure**

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| ECTS credits allocated to the course reflect the total burden to the student during adoption of the course content. Total contact hours, relative gravity of the content, effort required for exam preparation, as well as, every other possible burden are taken in account: | | | | | |
| **Attendance (active participation)** | **Term paper** | **Composition** | **Presentation** | **Continuous assessment and evaluation** | **Practical work** |
| **0,7** | **0,3** |  |  | **0,5** |  |
| **Independent work** | **Project** | **Written exam** | **Oral exam** | **Other** | |
|  |  | **1** | **1,5** |  | |

**Review of topics/units per week associated with learning outcomes**

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| Week | Lectures topics/units and learning outcomes: | Tutorials topics/units and learning outcomes: |
| 1. | Taxonomy of bacteria in the food system | Implementation of HACCP plan in dairy industry |
| 2. | Family Micrococacae, family Pseudomonadaceae, family Lactobacilaceae, family Bacilliaceae, | Implementation of HACCP plan in beer industry |
| 3. | Family Enterobacteriaceae, family Vibrionaceae, family Vibrionaceae, mildew | Implementation of disinfection in the industry |
| 4. | Food poisoning - consequences | Implementation of disinsection in the industry |
| 5. | Land hygiene | Implementation of deration in the industry |
| 6. | Water hygiene | Technological processes in food processing industry, GMP, GHP |
| 7. | Air hygiene | Technological processes in dairy industry GMP, GHP |
| 8. | CIP, COP, DDD | Technological processes in beer industry GMP, GHP |
| 9. | Hygiene and HACCP guides | Technological processes of baking industry GMP, GHP |
| 10. | The requirements of the HACCP system in facilities which process raw materials of animal origin | The technical design of food industry |
| 11. | The requirements of the HACCP system in facilities which process raw materials of vegetable origin | Rapid methods for checking hygienic safety of the production lines |
| 12. | Legality of the GMP, GLP, GHP | Field Work |
| 13. | Legislation (laws, regulations, acts, decrees) | Field Work |
| 14. | Control of hygienic quality – methods | Field Work |
| 15. | Student seminars | Colloquium |

**References**

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| REFERENCES (compulsory/additional): |
| Cuthrie,R.K: Food sanitation, Av. – New York, 1998.  MacSwane, David Z. : Essentials of Food Safety and Sanitation / David Z. McSwane, Nancy Roberts Rue,  Richard Linton. 4th ed. New York : Pearson Prentice Hall, 2005.  Hobbs.B.G.: Poisoning and food hygiene, Edward Arnold, 2007. |

**Exams for the academic year:** 2022/2023

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| Exam dates: | According to the schedule of exams for current academic year |

**Contact information**

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| 1. Course Instructor/Lecturer: | Marijana Blažić, PhD, Assistant Professor |
| e-mail: | mblazic@vuka.hr |
| Office hours / Consultations: | Monday, from 12:00 (with previous arrangement on e-mail); Strossmayer Square 9, room 311/3 |
| 2. Course Instructor/Lecturer: |  |
| e-mail: |  |
| Office hours / Consultations: |  |

1. ISVU – Information System of Higher Education Institutions in Croatia [↑](#footnote-ref-1)