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| **Title and Code** of the subject: **Quality and safety of food technologies (HACCP in practice), MTMEL7004A** | **ECTS Credit Points: 3** |
| **Type** of the subject: compulsory | |
| **Ratio of theory and practice: 66/33** (credit%) | |
| **Type and number of classes per semester**: 28 hours lecture and 14 hours practice per **semester**  Number of teaching hours / week : 2+1 (lecture and practice) | |
| **Type of exam**: exam | |
| **Subject in the curriculum:** semester 1 | |
| Preliminary requirements:- | |

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| **Summary of content - theory**: |
| Course objectives: The main aim of the lectures is to know the hygiene requirements related to plant and animal origin food production, the structure of HACCP plan and the methodology of product description, manufacturing formula, hazard identification, hazard analysis, flow diagram preparation and corrective action determination. Until the end of the semester, student will be able to identify the physical, chemical and microbiological hazard in plant and animal origin food production, and they will be able to prepare a HACCP plan.   1. 852/2004/EC and 853/2004/EC regulations 2. Methodology of HACCP plan preparation 3. Methodology of hazard analysis preparation 4. Hazards in the production of bakery products 5. Hazards in the production of confectionary products 6. Regulations of the production of milk and dairy products 7. Regulation of the production of meat and meat products 8. Hazard analysis of heat treated plant origin products 9. Regulation of poultry and poultry meat products 10. Hazard analysis of canned and quick-frozen plant origin food 11. Regulations of egg and egg products 12. Regulations of fish and fishery products 13. Hazard analysis of alcoholic and non-alcoholic beverages 14. Test |
| **Summary of content - practice**: |
| Skills to be learnt: The main aim of the practices is to increase the knowledge of HACCP plan and hazard analysis. For this purpose, the preparation of HACCP plans will be carried out for specific foodstuffs, and students will make an individual project task about a chosen food.     1. Hazards in the production of milk and dairy products 2. Preparation of flow diagram 3. Preparation of product description 4. Preparation of hazard analysis and determination of CCPs 5. Determination of monitoring procedures and corrective actions 6. Hazard analysis of a dairy product 7. Hazards in the production of meat products 8. Hazard analysis of a pork meat product 9. Hazard analysis of a cured poultry product 10. Hazard analysis of a quick-frozen poultry product 11. Hazard analysis of an egg product 12. Hazard analysis of a canned fish product 13. Group presentation of the project tasks 14. Group presentation of the project tasks |
| **Literature, handbooks in English** |
| 1. 2016/C 278/01 EU Commission notice on the implementation of food safety management systems covering prerequisite programs (PRPs) and procedures based on the HACCP principles, including the facilitation/flexibility of the implementation in certain food businesses 2. 852/2004/EC regulation (2009): on the hygiene of foodstuffs 3. 853/2004/EC regulation (2017): laying down specific hygiene rules for food of animal origin 4. Lelieved, H., Holah, J., Gabric, D.: (2016): Handbook of Hygiene Control in the Food Industry. ISBN: 978-0-08-100197 5. Codex Alimentarius Commission: Food hygiene. Basic texts. (http://www.fao.org/docrep/012/a1552e/a1552e00.pdf) |
| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge:**  * Students will know definitions of food preparation, main features and connections * Students will know the food hygiene regulations, and will be able to identify hazards associated with food processing and treatment  1. **Skills:**  * Students will be able to prepare product description, manufacturing formula, flow diagram and hazard analysis * Students will be able to determine preventive/control measures and corrective actions  1. **Attitude:**  * Students shall make efforts to solve different problems in food preparation  1. **Autonomy and responsibility:**  * Students will be able to solve different problems alone or jointly with others |

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| **Responsible lecturer: Dr. Nikolett Czipa, associate professor** |
| **Other lecturer(s): Loránd Alexa, PhD student; Andrea Kántor, PhD student** |

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| **Terms of course completion:** |
| 1. Completing exercises 2. Submitting individual project task 3. Successful test |
| **Form of examination:** |
| Test and individual project task |
| **Requirement(s) to get signature:** |
| Successful test (60%) and participation in practices |

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| **Exam questions:** |
| 1. Description of the main points of 852/2004/EC regulation 2. Description of the main points of 853/2004/EC regulation 3. Description of the content of product descriptions and manufacturing formulas 4. Principles of flow diagram preparation 5. Principles of the determination of critical points 6. Principles of the preparation of a hazard analysis preparation 7. Criteria of monitoring controls 8. Criteria of corrective actions 9. Hazards related to milk industry 10. Hazards related to meat industry 11. Hazards related to poultry meat industry 12. Hazards related to egg products 13. Hazards related to fish products 14. Hazards related to the storage of ingredients 15. Hazards related to the storage of end-products 16. Hazards related to heat treatment 17. Hazards related to freezing |