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| **Title and Code** of the subject:**Food quality and safety risk analysis MTMEL7021A** | **ECTS Credit Points: 5** |
| **Type** of the subject: compulsory  |
| **Ratio of theory and practice:** 60/40(credit%) |
| **Type and number of classes per semester**: 42 hour(s) lecture and 28 hour(s) practice per **semester** Number of teaching hours / week: 3+2 (lecture and practice) |
| **Type of exam**: exam  |
| **Subject in the curriculum:** semester 4 |
| Preliminary requirements:- |

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| **Summary of content - theory**:  |
| Course objectives: The main aim of the lectures is to know the physical, chemical and biological/microbiological hazards which have important effects on food safety and food quality. Student will know different foodborne diseases that are caused by different bacteria and parasites. In this semester, students will know the methodology of risk analysis (mainly the risk assessment) and the methodology of the determination of tolerable intakes and other toxicological values. 1. Introduction to food safety
2. Introduction to toxicology
3. Chemical hazards
4. Microbiological hazards
5. Preliminary risk management activities
6. Risk management and risk communication
7. Chemical risk assessment
8. Hazards of genetically modified plants and foods
9. Risk-based categorization of food business
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| **Summary of content - practice**: |
| Skills to be learnt: The main aim of the practices is to expand the lecture’s knowledge with example tasks and case studies. Therefore the students explore case-studies and make exercises which help them to develop their abilities for the assessment of risks and hazards and for exposure assessment.  1. Influencing factors of food safety
2. Human exposure assessment
3. The dose-response relationship
4. Tolerable intake and risks
5. Risk profile
6. Risk ranking
7. Case studies for chemical risk assessment
8. Risiko (risk) assessment
9. English model for risk-based categorisation of food business
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| **Literature, handbooks in English**  |
| 1. WHO (2000): Human Exposure Assessment (Environmental Health Criteria; 214). Geneva, Switzerland
2. WHO (2010): WHO Human Health Risk Assessment Toolkit: Chemical Hazards. Geneva, Switzerland
3. Tulve et al. (2016): Guidelines for Human Exposure Assessment. U.S. EPA
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| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge:**
* Students will gain the knowledge and skills required for hazard and risk assessment
* Students will gain the knowledge and skills required for human exposure assessment
* Students will have adequate knowledge about the hazards and foodborne diseases
1. **Skills:**
* Students will be able to apply the tools of risk assessment
* Students will be able to characterise hazards and determine risks related to food safety
1. **Attitude:**
* Students will be endeavoured to apply the newest scientific results
1. **Autonomy and responsibility:**
* Students shall be able to feel responsible for safe food production
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| **Responsible lecturer: Dr. Nikolett Czipa, associate professor** |
| **Other lecturer(s): -** |

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| **Terms of course completion:** |
| 1. Giving presentation
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| **Form of examination:** |
| Exam |
| **Requirement(s) to get signature:** |
| Participation in practices and presentation |

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| **Exam questions:** |
| 1. Definition of food safety and food chain safety and the influencing factors of food safety
2. Hazards in raw material production and food production
3. Characterisation of vulnerable groups
4. Characterisation of chemical hazards and diseases
5. Characterisation of foodborne diseases caused by bacteria
6. Characterisation of foodborne diseases caused by parasites
7. Influencing factors of toxicity
8. Characterisation of dose-response relationship
9. Characterisation of exposure models
10. Human exposure assessment
11. Preliminary risk management activities
12. Characterisation of risk profile
13. Methodology of risk ranking
14. Methodology of risk assessment
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