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| **Title and Code** of the subject: **Milk and Meat Processing MTMAL7013** | **ECTS Credit Points: 3** |
| **Type** of the subject: compulsory / optional | |
| **Ratio of theory and practice: 30/70** (credit%) | |
| **Type and number of classes per semester**: 14 hour(s) lecture and 28 hour(s) practice per semester  Number of teaching hours / week : 1+2 (lecture and practice) | |
| **Type of exam**: exam / practical course mark | |
| **Subject in the curriculum:** semester 3 | |
| Preliminary requirements:- | |

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| **Summary of content - theory**: |
| Course objectives:  1. Economic aspects of milk and milk products. Raw milk certification system. Factors affecting milk quality.  2. The composition, properties and dietary physiological role of milk. Controlling milk microbes  3. Primary treatment of milk. Major operations of milk processing. Production of consumer milk and aromatized milk products.  4. Manufacture of sour products. Cottage cheese production.  5. Butter production. Cheese production.  6. The bulk cheese production. Milk powder production.  7. Utilization of dairy by-products. Cleaning and sterilization in dairy farms.  8. Trends in Meat Consumption.  9. Production and processing of large slaughter animals (pigs, cattle) Classification of slaughter animals.  10. Production and processing of poultry.  11. Factors influencing the quality of meat.  12. The chemical composition, nutritional and physiological significance of meat.  13. The tissue composition of meat. The physiology of slaughter and the processes in the meat.  14. Production of meat-based products. Packaging of meat and meat products |
| **Summary of content - practice**: |
| Skills to be learnt:    1. Economic aspects of milk and milk products. Raw milk certification system. Factors affecting milk quality.  2. The composition, properties and dietary physiological role of milk. Controlling milk microbes  3. Primary treatment of milk. Major operations of milk processing. Production of consumer milk and aromatized milk products.  4. Manufacture of sour products. Cottage cheese production.  5. Butter production. Cheese production.  6. The bulk cheese production. Milk powder production.  7. Utilization of dairy by-products. Cleaning and sterilization in dairy farms.  8. Trends in Meat Consumption.  9. Production and processing of large slaughter animals (pigs, cattle) Classification of slaughter animals.  10. Production and processing of poultry.  11. Factors influencing the quality of meat.  12. The chemical composition, nutritional and physiological significance of meat.  13. The tissue composition of meat. The physiology of slaughter and the processes in the meat.  14. Production of meat-based products. Packaging of meat and meat products |
| **Literature, handbooks in English** |
| 1. **Meat Science: An Introductory Text 2 nd edition ISBN 9780851994246** 2. **Muscle Development of Livestock Animals: Physiology, Genetics and Meat Quality,** [**Marinus Te Pas**](https://www.amazon.co.uk/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Marinus+Te+Pas&search-alias=books-uk&field-author=Marinus+Te+Pas&sort=relevancerank)[**Henk Haagsman**](https://www.amazon.co.uk/s/ref=dp_byline_sr_book_2?ie=UTF8&text=Henk+Haagsman&search-alias=books-uk&field-author=Henk+Haagsman&sort=relevancerank)[**Maria Everts**](https://www.amazon.co.uk/s/ref=dp_byline_sr_book_3?ie=UTF8&text=Maria+Everts&search-alias=books-uk&field-author=Maria+Everts&sort=relevancerank)**, CABI Publishing, , ISBN-10: 9780851998114** 3. **Dairy Science and Technology : P. Walstra;Pieter Walstra;Jan T. M. Wouters;Tom J. Geurts, CRC Press, ISBN 08247-2763-0** 4. **Meat products handbookPractical science and technology, G. Feiner, , eBook ISBN: 9781845691721, Woodhead Publishing, 2006.** |
| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge**   Students can learn about the factors that affect the quality of various dairy and meat products, with particular regard to animal husbandry aspects. They acquire the technology of producing meat and dairy products.   1. **Ability**   They can make detailed analysis of the various ideas that make up the knowledge system of the given field, they can synthesize the comprehensive and special contexts and perform an adequate evaluation activity.  They will be able to identify specific professional problems with a versatile, interdisciplinary approach, and explore and formulate a detailed theoretical and practical background to their solution.   1. **Attitude**   After the course students will be open, motivated and receptive to the innovative processes, understand the practical application of technologies in plant production and animal production of the food ingredient manufacturing sector. The students will be committed to quality work, will adopt and apply scientific research and ethical rules and norms applicable to practical production.   1. **Autonomy and responsibility**   With the mastery of the course the student has considerable autonomy in the given field of special comprehensive and professional tasks, and sense of responsibility of the food produced in safety, quality. They feel responsible for the immediate and wider social groups of high-quality food production and so is able to take decisions and responsibilities. |

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| **Responsible lecturer: Dr. Rózsáné Dr. Várszegi Zsófia** |

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| **Terms of course completion:** |
| 1. Giving presentation |
| **Form of examination:** |
| Kollokvium |
| **Requirement(s) to get signature:** |
| Attendance at lectures is recommended, but not compulsory.  Participation at practice is compulsory. Students must attend the practice classes and may not miss more than three times during the semester. In case a student does so, the subject will not be signed and the student must repeat the course. Attendance at practice classes will be recorded by the practice leader. |

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| **Exam questions:** |
| 1. Factors affecting meat quality 2. Meat quality: colour, tenderness, water holding capacity 3. The types of the decrease of pH after slaughtering, extremist meat quality 4. Methods for determining the slaughtering value of cattle, sheep and pig 5. Meat preserving processes 6. The process of cooked ham 7. Fermented and dry sausages 8. Cooked sausages 9. The components of milk 10. Factors affecting milk quality 11. First treatment of milk 12. Types of heat treatments 13. Manufacturing of yoghurt and kefir 14. Manufacturing of butter 15. Manufacturing of cheese |