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| **Title and code** of the subject:**Technology of customer goods and confectionery industry, MTBE 7034A** | **ECTS Credit Points: 3** |
| **Type** of the subject: compulsory |
| **Ratio of theory and practice: 33/66** (credit%) |
| **Type and number of classes per semester**: 14 hour(s) lecture and 28 hour(s) practiceNumber of teaching hours / week: 1+2 (lecture and practice) |
| **Type of exam**: exam |
| **Subject in the curriculum:** semester 6th |
| Preliminary requirements:- |

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| **Summary of content - theory**:  |
| Course objectives: Consumer goods, luxury items (coffee, tea, cocoa and confectionery) are important products of food industry having relatively stable position in the consumption basket. This subject is aimed to make a systematic summary about their certification, primary and secondary processing, as well as health effects. **Schedule:**1. Coffee. Origin, morphology, types, quality parameters, ingredients, chemical compounds.
2. Primary processing of coffee, dry and wet process, roasting.
3. After treatment of coffee, coffee extracts, decaffeinated coffee, alternative coffees, café cultures.
4. Cacao tree, cacao bean, ingredients, primary processing, roasting.
5. Storing of cacao liquor, producing chocolate mass.
6. Conching, rheological properties, tempering, polymorphism of cacao-butter.
7. Chocolate producing machines, quality parameters, cocoa powder production.
8. Tea-plant, active ingredients, tea varieties.
9. Quality of tea leaves, green and black tea production and classification.
10. Characteristic of blended tea, tea specialties, packaging, infusion types.
11. Methods of confectionery: solving, concentration, separation.
12. Methods of confectionery: drying, roasting, grinding, forming.
13. Manufacturing of sweets, marshmallow and jelly.
14. Manufacturing of caramel, brittle, marzipan and dragée, fruit processing for confectionery.
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| **Summary of content - practice**: |
| **Schedule:**1. Practical implementation of coffee processing
2. Coffee brewing technologies
3. Practical implementation of cacao processing
4. Production of chocolate
5. Practical implementation of tea processing
6. Tea brewing technologies
7. Production of hard candies
8. Production of hard candies
9. Production of marshmallows
10. Production of marshmallows
11. Production of jellies
12. Production of jellies
13. Production of caramels
14. Production of caramels
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| **Literature, handbooks in English**  |
| 1. Emmanuel Afoakwa – Chocolate Science and Technology. 2010. Wiley-Blackwell. 9. 275.
2. F.Á. Mohos (2010) Confectionery and Chocolate Engineering (Principles and Applications), A John Wiley & Sons, Ltd., Publication. p. 688.
3. Astrid Nehlig – Coffee, Tea, Chocolate, and the Brain. Edited. 2004 by CRC Press LLC
4. Yukihiko Hara – Green Tea. Health Benefits and Applications. MARCEL DEKKER, INC. NEW YORK 2001.
5. Jean Nicolas Wintgers – Coffee: Growing, Processing, Sustainable Production: A Guidebook for Growers, Processors, Traders, and Researchers. Ed. Wiley-VCH, 2009.
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| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| * **Knowledge:**
* They know the fundamental conceptions, facts, theories, specialities and relations concerning food production and management.
* They know the food industrial principles, instruments, equipment and their operation in practice.
* **Skills:**
* They are able to participate in developing and designing technological systems, and developing new operations and products.
* They are able to organize processes in food industry and to participate in the elaboration of recommendations establishing decisions.
* **Attitude:**
* They support professional questions constructively. They are sensitive to novelties.
* They make efforts to analyse and solve problems arising in the field of food industry. They can be characterized by collaborating and adapting ability.
* **Autonomy and responsibility:**
* They take the responsibility of work of their own and their colleagues being under their leadership.
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| **Responsible lecturer: Dr. Beáta Babka, assistant professor, PhD** |

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| **Terms of course completion:** |
| 1. Participation on practices
2. Completing written and oral exam
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| **Form of examination:** |
| Written exam |
| **Requirement(s) to get signature:** |
| Participation in practices |

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| **Exam questions:** |
| 1. Origin, morphology, types, quality parameters, ingredients, chemical compounds of coffee
2. Dry processing of coffee
3. Wet processing of coffee
4. Roasting of coffee
5. Coffee extracts and café cultures
6. Decaffeinated coffee production, alternative coffees
7. Cacao tree, cacao bean, ingredients, primary processing, roasting
8. Storing of cacao liquor, producing chocolate mass
9. Conching, rheological properties, tempering
10. Chocolate producing machines, quality parameters, cocoa powder production
11. Tea-plant, active ingredients, tea varieties
12. Green, Oolong and Black tea production and classification
13. Tea specialties, packaging, infusion types
14. Production of unfilled sweets, and the description of the technological operations
15. Production of marshmallow, and the description of the technological operations
16. Production of jelly, and the description of the technological operations
17. Production of caramel, and the description of the technological operations
18. Production of brittle, and the description of the technological operations
19. Production of marzipan, and the description of the technological operations
20. Production of dragée, and the description of the technological operations
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