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| **Title and Code** of the subject:**Baking and pasta technology, MTBE7035A** | **ECTS Credit Points: 3** |
| **Type** of the subject: compulsory / optional |
| **Ratio of theory and practice: 50/50** (credit%) |
| **Type and number of classes per semester**: 14 hour(s) lecture and 28 hour(s) practice per **semester** **Number of teaching hours / week**: 2+2 (lecture and practice) |
| **Type of exam**: **exam** / practical course mark |
| **Subject in the curriculum:** semester 6 |
| Preliminary requirements:- |

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| **Summary of content - theory**:  |
| Course objectives:**Schedule:**1. The history of the baking industry, its place in the cereals ceramics. Grouping of bakery products. Description of baking ingredients. Physical, chemical and rheological parameters of flour in the baking industry. Presentation of type of flour.
2. The system of bakery additives and auxiliary materials, their purpose and their effect on the parameters of the products and technology.
3. Preparation of raw materials. Methods of dough making and dough kneading. Physical and chemical processes occurring during kneading and baking time. The baking of the dough.
4. The purpose, methods and tools of dough processing. Method of baking, the effect of the tool used and the baking parameters on the quality products. Cooling, packaging, storage. Bread defects and their prevention.
5. Specialty products made from wet dough and the quality (MÉ 2-81/02) and Specialty products made from milk dough and the quality (MÉ 2-81/03). Enriched dough and the quality (MÉ 2-81/04). Egg-enriched dough and the quality (MÉ 2-81/05).
6. Shortcrust/friable dough and the quality (MÉ 2-81/06). Products from puff/flaky pastry dough and the quality (MÉ 2-81/07). Frozen baking products and the quality.
7. Other baking products: biscuits, breadcrumbs wafers etc.
8. Specialty bakery products, methods and modes on the World – traditional products from Europe, America, Asia, Australia and Africa.
9. The history of the pasta production. Importance of pasta production. Classification of dry pasta products.
10. Basic ingredients, additives and auxiliary materials of the pasta industry, packaging forms and materials.
11. The pasta technology. Preparation of basic ingredients, additives and auxiliary materials.
12. Pressing and shaping of the pasta. Stretching, pressing, cutting of the size. Physical and chemical processing of the drying. Finishing operation of the dry pasta productions.
13. The quality requirements of dry pasta.
14. Names of the different dry pasta, special dry pasta
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| **Summary of content - practice**: |
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| **Literature, handbooks in English**  |
| **Practical exercises for the course of baking and pasta technology**, Gerda Diósi, 2019 University of Debrecen Faculty of Agricultural and Food Sciences, and Environmental Management |
| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge:**
* Knows bread , bakery products and pasta processing
* Knowns the physical, chemical, biological processes
1. **Skills:**
* Able to carry out/work food processing (in semi-industrail and industrial processing)
* Able to work according to enviromental regulations and health regulations
1. **Attitude:**
* Open to analyze and solve food problems
* Open to new technologies and new foods
1. **Autonomy and responsibility:**
* Take responsibility for his/her staff
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| **Responsible lecturer: Dr. Gerda Diósi** |
| **Other lecturer(s): ………..., ………………….** |

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| **Terms of course completion:** |
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| **Form of examination:** |
| written exam |
| **Requirement(s) to get signature:** |
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| **Exam questions:** |
| 1. What are the chemical parameters of wheat flour, bran and germ?
2. List 10 mill products with the name!
3. List the mill products according to their grain size!
4. What are the qualification parameters of flour?
5. What does bread mean as a concept?
6. What does bakery product mean as a concept?
7. What does wheat bread mean as a concept?
8. What does raw material mean as a concept?
9. What does additive mean as a concept?
10. What does additional material mean as a concept?
11. What does excipient mean as a concept?
12. List and characterize 5 other materials that are used in the baking industry!
13. What are the raw materials of bread?
14. How is the ripening of dough done?
15. How is the baking of dough done?
16. What are some of the bread problems?
17. What are the bakery product groups?
18. List the tools of bread processing!
19. What are the requirements for bread?
20. What are the ingredients and parameters of sourdough?
21. What are the problems with microbiological deterioration of bread and bakery products?
22. Characterize the specialty bakery products made from wet dough!
23. Characterize the specialty bakery products made from milk dough!
24. Characterize the specialty bakery products made from enriched dough!
25. Characterize the specialty bakery products made from egg-enriched dough!
26. Characterize the specialty bakery products made from shortcrust/friable dough!
27. Characterize the specialty bakery products made from puff/flaky pastry dough!
28. Characterize the frozen baking products!
29. Characterize the preservable bread!
30. How is biscuit production done?
31. What are the ingredients of altar-bread/wafers/cachet?
32. How is altar-bread/wafers/cachet production done?
33. List and characterize European bakery products!
34. List and characterize American bakery products!
35. List and characterize Asian bakery products!
36. List and characterize Australian bakery products!
37. List and characterize African bakery products!
38. List and characterize other bakery products!
39. What do the following terms mean: small pieces’ pasta, cereal substitute, flavouring and enriched materials, long pieces’ pasta, egg pasta?
40. How can we group pasta?
41. What are the ingredients for pasta?
42. What do the different egg content pasta mean?
43. What is the standard for packaging materials?
44. What are the steps of pasta technology?
45. What are the requirements for pasta making?
46. How is compression and pressing done?
47. How is shape (cutting to size, formatting) done?
48. How is drying done?
49. How are finish operations done?
50. How is package and storage done?
51. What are the organoleptic parameter requirements for dry pasta?
52. What are the physical parameter requirements for dry pasta?
53. What are the chemical parameter requirements for dry pasta?
54. What does the following term mean: Pasta without egg?
55. What does the following term mean: Pasta with egg(s)?
56. What does the following term mean: Durum pasta?
57. What does the following term mean: Durum pasta with egg(s)?
58. What does the following term mean: Homemade pasta?
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