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| **Title and Code** of the subject: **Molecular Biology** **Code: MTMNO7012A** | **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 14 hour(s) practice per **semester** Number of teaching hours / week : 1+1 (lecture and practice) |
| **Type of exam**: **oarl exam** / practical course mark |
| **Subject in the curriculum:** semester 1. |
| Preliminary requirements:- |

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| **Summary of content – theory and practice**:  |
| Course objectives:1. Macromolecules of the cells - KE
2. Genetic elements and their characteristics - KE
3. DNA replication in the prokaryotic and in the eukaryotic cells - KE
4. Protein synthesis – transcription - KE
5. Protein synthesis – translation - KE
6. Chemical identification methods for the organisms - KE
7. Serological methods - KE
8. Basics and main types of molecular blotting techniques - PK
9. Basics of PCR and standard PCR - PK
10. Real-time PCR - PK
11. Molecular identification - KCs
12. Molecular techniques on the field of plant protection - KCs
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| **Responsible lecturer: Dr. Erzsébet Karaffa** |

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| **Form of examination:** Oral examination |
| **Requirement(s) to get signature:** |
| The attendance in the class is highly recommended.The course will end with a presentation from an article, and discussion the introduced results based on molecular methods on the field of plant protection. It is also necessary to answer for all the problen solving tasks connected to the practices.Means of preparation: notes from class and articles provided by the lecturer |