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| **Title** of the subject: **Plant protectional application technology MTMNO7009A** | **Credit: 2** |
| **Type** of the subject: **compulsory** | |
| **Ratio of theory and practice: 33 /66** (credit%) | |
| **Type and number of classes per semester**: **42 hours per semester** (1 h lecture / 2 h practice per week**)** | |
| **Type of exam**: exam / practical course mark | |
| **Subject in the curriculum:** semester 2 | |
| Preliminary requirements:- | |

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| **Summary of content - theory**: The knowledge to be acquired is concise, as well as a 14 week breakdown of lectures. |
| Description of goal:  Students will learn the main types of sprayers and the main structural parts. Students able to use the equipment’s of crop protection. Students able to use the equipment’s of orchard protection.  Course objectives:   1. Main types of the sprayers 2. The flow system of the sprayers 3. Sprayer pumps 4. Field sprayer structures 5. Sprayer Nozzles 6. Orchard sprayers I. 7. Orchard sprayers II. 8. Application Control of the sprayers and it’s Equipment 9. Electronic Control of the sprayers and GPS Guidance system 10. Sprayer aircraft 11. Environmentally friendly pest control methods 12. Plant protection equipment’s 13. Operating of the sprayers 14. Operating of the sprayers |
| **Summary of content - practice**: The knowledge to be acquired is concise, as well as a 14 week breakdown of practice. |
| Description of goal:  Training the skill of plant protection machine and adjusting the plant protection sprayer.  Training the skill of orchard protection machine and adjusting the orchard protection sprayer.  Skills to be learnt:   1. Training the flow system of the sprayers 2. Training the flow system of the sprayers 3. Training the Sprayer pumps 4. Training the Field sprayer structures 5. Training the Sprayer Nozzles 6. Training the Orchard sprayers I. 7. Training the Orchard sprayers II. 8. Training the Application Control of the sprayers and it’s Equipment 9. Training the Electronic Control of the sprayers and GPS Guidance system 10. Field practice 11. Field practice 12. Field practice 13. Operating of the sprayers 14. Operating of the sprayers |
| **Literature, handbooks in English** |
| 1. Erich-Christian Oerke, Roland Gerhards, Gunter Menz, Richard A. Sikora: Precision Crop Protection, ISBN-10: 1892769646 2. Csizmazia Zoltán: A növényvédelem gépei, DE MTK |
| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge:**  * Knows, integrates, synthesizes and broader cultivation and management, the disciplinary knowledge of plant protection machine in systems. * Knows the mechanism plant protection and orchard protection machines  1. **Skills:**  * They will be able of integrated weed management against that pose a threat to plants planning and implementation. * They will be able to perform practical plant protection, administrative  1. **Attitude:**  * Has the necessary knowledge to perform engineering and managerial duties. * Susceptible and suitable for cooperation. * Their work is characterized by high standard. * They are able to stand up for their views, but are open to others’ opinions as well.  1. **Autonomy and responsibility:**  * They can recognize the risks and boundaries of their decisions. * They have an independent sense of professional responsibility. |

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| **Responsible lecturer: Zoltán Hagymássy associate professor** |
| **Other lecturer(s): - Árpád Illés assistant lecturer** |

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| **Terms of course completion:** |
| Completing exercises |
| **Form of examination:** |
| Written and oral examination |
| **Requirement(s) to get signature:** |
| Attendance at the lecture is recommended, attendance at the exercises is mandatory (4 allowed absences per semester). |

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| **Exam questions:** |
| 1. Describe the attributes of the flow system of the sprayers 2. Describe the attributes of Sprayer pumps 3. Describe the attributes of Field sprayer structures 4. Describe the attributes of Sprayer Nozzles 5. Describe the attributes of Orchard sprayers 6. Describe the attributes of Application Control of the sprayers and it’s Equipment 7. Describe the attributes of Electronic Control of the sprayers and GPS Guidance system 8. Describe the attributes of Sprayer aircraft 9. Describe the attributes of Environmentally friendly pest control methods 10. Describe the attributes of Plant protection equipment’s 11. Describe the attributes of Operating of the sprayers |