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| **Study programe:** | **Professional undergraduate study in Agriculture**  Specific field of study: Plant production | |
| **Course:** | **MECHANISATION IN PLANT PRODUCTION** | |
| **Course code:** 273285  **Course status**: compulsory | **Semester:** **III** | **ECTS credits: 6,5** |
| **Course holder:** | **Vlado Kušec,** M. Sc., senior lecturer | |
| **Modes of delivery:** | **Number of hours** | |
| Lectures | 45 | |
| Exercises | 30 | |
| Seminars | 23 | |

**COURSE OBJECTIVES:** To enable students to acquire competencies for selecting and evaluating the use of mechanization in the field of agricultural and vegetable production, to explain the principle of operation, construction, rational application from the aspect of energy consumption and environmental impact.

**Course content**

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|  | **Course units** | **Modes of delivery:** | | | | | | **Places of delivery** | |
| **L** | | **E** | | **PT** | |
| 1. | Introduction, | 2 | | 0 | | - | | Lecture hall | |
| 2. | Machines and devices for land cultivation  Machines for destroying weeds and bushes  Terrain leveling devices  Devices for making and maintaining canals | 3 | | 2 | | - | | Lecture hall, Practicum | |
| 3. | Machines and devices for tillage  Devices for basic processing  Additional processing devices  Devices for integral tillage | 6 | | 4 | | - | | Lecture hall, Practicum | |
| 4. | Machines and equipment for fertilizing plants  Manure spreading machines  Slurry distribution machines  Machines for the distribution of mineral fertilizers  Calcium distribution machines | 5 | | 4 | | - | | Lecture hall, Practicum | |
| 5. | Machines and devices for sowing and planting  Sowers for hoeing  Seed drills for cereals  Seeders for sowing and planting vegetable crops | | 5 | | 3 | | - | | Lecture hall, Practicum |
| 6. | Machines for the care of arable and vegetable crops | | 1 | | 1 | | - | | Lecture hall, Practicum |
| 7. | Machines and devices for the protection of agricultural and vegetable crops | | 4 | | 3 | | - | | Lecture hall, Practicum |
| 8. | Machines and devices for storing hay  Mowing devices  Devices for drying and collecting hay  Hay presses  Devices for transporting hay | | 4 | | 3 | | - | | Lecture hall, Practicum |
| 9. | Harvesting machines and devices  Grain harvesting machines  Corn harvesting machines  Sugar beet harvesting machines  Machines and equipment for storing silage  Machines and equipment for storing potatoes  Machines and equipment for storing vegetables | | 12 | | 8 | | - | | Lecture hall, Practicum |
| 10. | Machinery and equipment for the transport of agricultural and vegetable products | | 2 | | 1 | | - | | Lecture hall, Practicum |
| 11. | Devices and equipment for irrigation of agricultural and vegetable crops | | 2 | | 1 | | - | | Lecture hall, Practicum |
| 12. | Professional practice, the practical part of the teaching according to the teaching units of the theoretical part, will be carried out in the economic courtyard and production areas of the university. |  | |  | | 23 | | Farmhouse, outside the university | |
|  | **TOTAL HOURS** | **45** | | **30** | | **23** | |  | |

L=lectures; E=exercises; S=seminars, PT=Practical training

**Learning outcomes (LO)**

After passing the exam, students will be able to:

LO 1. Valorize the importance and specifics of machines and devices in agricultural and vegetable production

LO 2. Present the construction and principle of operation of machines and devices in agricultural and vegetable production

LO 3. Critically judge the suitability of different machines and devices in certain areas of agricultural and vegetable production

LO 4. Select the necessary capacities and structure of machines and devices in agricultural and vegetable production

LO 5. Evaluate the impact of individual machines and devices on the environment

Course holder:

Vlado Kušec, M. Sc., senior lecturer

Križevci, July 2024