

## **Tárgytematika / Course Description** **Operation of agricultural machinery in a system**

**N\_DMA16**

**Tárgyfelelős neve /**

**Teacher's name:** Dr. Kovács Attila József

**Félév / Semester:** 2023/24/2

**Beszámolási forma /**

**Assesment:** Vizsga

**Tárgy heti óraszám /**

**Teaching hours(week):** 0/0/0

**Tárgy féléves óraszám /**

**Teaching hours(sem.):** 30/0/0

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### **OKTATÁS CÉLJA / AIM OF THE COURSE**

The aim of the course is to briefly describe the operational alternatives of agricultural machinery including power-machines as well as working units. The course focuses on energy saving issues and environmental questions in order to minimize loss in the energy utilization cycle. Within the course all machinery systems are introduced, focusing on setup, regulation and operation. It is important to emphasize the system approach in that individual machines, machine groups and tasks are investigated while keeping in mind the entire plant production system of harvesting, storage, as well as post-harvest technologies. The optimization keeps in mind economical and sustainability requirements as well.

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### **TANTÁRGY TARTALMA / DESCRIPTION**

1. Energetic parameters of agricultural power machines.
2. Running gears of agricultural machinery and the stability of the machinery systems.
3. Technical services for agricultural machinery.
4. Engineering, energetic and agro technological aspects of machinery systems.
5. Soil cultivation in sustainable agriculture.
6. Operation of fertilizing and plantation equipment.
7. Environmentally friendly and reduced-chemical plant protection technologies.
8. Harvesting machines and operational characteristics.
9. Energy efficient dryers and their operational properties.
10. Biogas production agricultural farms and their operational issues.
11. Biofuel production and utilization alternatives.
12. Alternative energy systems and their applications in agriculture.

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### **SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD**

Meeting the conditions set by the supervisor.

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## KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

- Tibold V.**(szerk.) (1977): Gépek üzemeltetése a mezőgazdaságban. Mg. Kiadó, ISBN 963-230-274-5
- Janik J.- Remsei N.** (1979): Mezőgazdasági gépek üzemfenntartása. Mg. Kiadó, ISBN 963-230-045-9
- Szendrő P.** (szerk.) (2000): Mezőgazdasági géptan. Mezőgazda, ISBN 963-9239-54-2
- Birkás M.** (szerk.) (2001): Talajművelés a fenntartható gazdálkodásban. ISBN 963 9256 307
- Csizmazia Z.** (2007): A korszerű tápanyag-gazdálkodás műszaki feltételei. ISBN 978-963-473-050-7
- Kacz K.** (2008): Utilization of Biomass as Biogas. Renewable Energy Textbooks, ISBN 978-963-9364-99-8

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## AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL