

ENERGETIC BASES AND HORTICULTURAL MACHINES (Horticulture Specialization, I th Year of study, II th Semester)

Credit value (ECTS): 4

Course category: Domain (Compulsory courses)

Course holder: PhD Professor Ioan ȚENU

Discipline objectives (course and practical works)

The Energetic bases and horticultural machines discipline, along with other specialized disciplines, contributes to the theoretical and practical training of future horticultural engineers.

The development of course activities and practical works aims to assimilate the theoretical and practical knowledge on the construction, operation and exploitation of tractors, machines and installations for the horticulture field specific agricultural works execution.

Contents (syllabus)

Course (chapters/subchapters)
General considerations regarding the subject of the discipline.
Aspects on the exploitation and optimization of agricultural aggregate formation.
Plows construction and exploitation.
The construction and operation of machinery for deep loosening, leveling land and soil modeling.
Construction and exploitation of digging soil machinery and digging holes augers.
Construction and exploitation of agricultural seedbed preparation tillers.
The construction and operation of the harrows, cultivators, combiners and rollers.
The construction and exploitation of machinery for the administration of fertilizers and amendments.
The construction and operation of sowing and planting machineries.
Construction and operation of apparatus and machines for plant protection.
Construction and exploitation of universal harvesting combines for grains and technical plants.
The construction and operation of machinery for harvesting grapes and fruits.
Construction and operation of machines for harvesting potatoes and vegetables.

Practical works
Construction and plow adjustments
Construction and adjustments of machinery for deep loosening, leveling land and soil modeling for deep loosening, leveling land and soil modeling.
Construction and adjustments of digging soil machinery and digging holes augers.
Construction and adjustments of agricultural seedbed preparation tillers.
Construction and adjustments of the harrows, cultivators, combiners and rollers.

Construction and adjustments of machinery for the administration of fertilizers and amendments.
Construction and adjustments of sowing and planting machineries.
Construction and adjustments of apparatus and machines for plant protection.
Construction and adjustments of universal harvesting combines for grains and technical plants.
Construction and adjustments of machinery for harvesting grapes and fruits.
Construction and adjustments of machinery for harvesting potatoes and vegetables.

Bibliography

1. Neagu Tr. Suditu P., 2002 – Horticultural Machinery and Equipment (in Romanian), "Ion Ionescu de la Brad" Publishing House.
2. Scripnic V. și Babiciu P., 1979, Agricultural Machinery (in Romanian), „CERES” Publishing House.
3. Stout B.A. (editor) (1999). CIGH Handbook of agricultural engineering; vol. III – Plant production engineering. ASAE, St. Joseph, MI.
4. Țenu I., Cojocariu P., Cârlescu P., Roșca R., Leon D. (2010) Soil interaction with the active parts of the agricultural equipments (in Romanian), "Ion Ionescu de la Brad" Publishing House.
5. Tenu I., 2004, Irrigation Equipments (in Romanian, "CERMI" Publishing House.
6. Tenu I., 2004, Equipment for land reclamation (in Romanian, „Gh. Asachi” Publishing House.
7. Țenu I. și colab. , 2010, The interaction of the soil with the working bodies of the agricultural aggregates (in Romanian, "Ion Ionescu de la Brad" Publishing House.
8. Țenu I. și colab, 2007, Technologies and machines for soil tillage in order to practice the concept of sustainable agriculture (in Romanian, "Ion Ionescu de la Brad" Publishing House.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	Written and oral examination	60%
Appreciation of the activity during the semester	Oral evaluation, laboratory colloquium at the end of the semester	20%
	Attending classes	20 %

Contact

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