



ACADEMIC YEAR: 2016-2017

COURSE: Mechanics and Farming

TYPE OF EDUCATIONAL ACTIVITY: Basic

TEACHER: Paola D'Antonio

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Language: Italian

ECTS: (lessons / tutorials/practice): 9	n. of hours: 64 hours of lessons 16 hours of practice	Campus: Potenza School: SAFE Program: three-year Bachelor in Agricultural Technology	Semester: I
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EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Content and knowledge

The course aims to provide knowledge of the basic principles that underlie the functioning agricultural machinery engines and operators , as well as the commonly used systems in production processes agricultural . Will be broadcast content and knowledge needed in agricultural machinery , with particular reference to the tractor and its components , the machines for haymaking , the machines for tillage and harvesting machines . Knowledge of the characteristics of modern tractors and agricultural machines in common use . Criteria for the evaluation of their performance and ways to optimize their technical and economical choice . In particular, the student is able to : identify the agricultural machinery that best respond to business conditions ; properly manage corporate machinery for tillage, crop management and harvesting of products .

PREREQUIREMENTS

SYLLABUS

Lessons

CFU-1: Introduction: Levels, patterns and development trends in the mechanization; Physical reminders: Mechanical engineering;

CFU-2: Tractor: Architecture, support structure and the driving position; internal combustion engines; transmission components; propulsion units and support; Steering and braking members; Coupling mechanisms and operation of MO; Dynamic Tractor budget.

CFU-3: Equipment for periodical tillage: Works of rupture; Digging machine; rotary cultivators; Machines for the preparation of the seed bed; hoes; rollers; Combined machines; Machines for cultivation work; Machines for processing intracceppi; Machines for ventilation of permanent pastures and meadows;

CFU-4: Machines for fertilization: Machines for organic fertilization; Machines for handling of manure and compost and solid fraction separated; Transport; Distribution; Homogenization, loading and distribution of sewage; Distribution of mineral fertilizers.

CFU-5: Sowing and transplantation: Sowing; Machines for hydroseeding and use of pre-seeded biodegradable fabrics; Combination drills for the regeneration of turf; Machines for the planting of tubers and bulbs; for transplanting machines. Machines for the distribution of pesticides: sprayers machines.

CFU- 6:07: Machines for harvesting forage: Cutting machines; Machines for cutting-harvest and load; Pearl machines Hey and commissioning swaths; Machines pearl collection, loading and transport. Machines for the collection of leguminous plants: The combine harvester; Bodies of cleaning and handling; Other harvesters. Harvesting of tubers, roots and bulbs: machines for the collection of tubers; Machines for the collection of roots; Machines for the collection of the carrots; Machines for harvesting of the bulbs. Harvesting machines of production of woody plants: Machines pearl grape harvest; Machines for harvesting olives and hard-shelled fruit; Machines pearl collection of fruit and citrus. Transporting equipment: Used internal-internal movements; Machines for indoor-outdoor movements.

CFU-8: Economic analysis of agricultural machinery: The cost of operation of agricultural machinery; The duration of



agricultural machinery; Analysis and calculation of fixed costs; variable cost analysis and calculation; The costs for the yards; calculation models for the evaluation of agricultural machinery. Health, safety and ergonomics: The risk factors for health; Risk assessment and treatment; Prevention, and personal protection.

Practices

CFU - 9 (exercises): Design and verification of the machines used in the main cultivation operations and / or site visits to companies and industry events to practical deepening of the topics covered in the lectures .

TEACHING METHODS

The course includes 64 hours of lectures and 16 hours of laboratory exercises and field. During the exercises the students , organized in autonomous teams , will be called to analyze, even with specific reports , cases of cultivation and management study considered within each exercise.

EVALUATION METHODS

Oral examination at the end of the course. Three questions, one of which related to topics addressed during practices.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Teaching material distributed in classroom
 - Appunti di Meccanica Agraria. Arrivo e D'Antonio. Ed. Quadrifoglio
 - Meccanica Agraria – Biondi . UTET
 - Meccanica e Meccanizzazione agricola . Pellizzi. Edagricole.
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INTERACTIONS WITH STUDENTS

- in the office at planned days/hours (usually on Wednesday)
 - email (every time)
 - mobile (every time)
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EXAMINATION SESSIONS (Forecast)

Calendar online:

<https://unibas.esse3.cineca.it/Home.do>

Usually the third Wednesday of every month (except August)

EVALUATION BOARD

Paola D'ANTONIO
Giovanni Carlo DI RENZO
Giuseppe ALTIERI
Nicola MORETTI

SEMINARS BY EXTERNAL EXPERTS YES
