SCUOLA DI SCIENZE AGRARIE, FORESTALI, ALIMENTARI ED AMBIENTALI

ACCADEMIC YEAR: 2018/2019

TEACHING / MODULE: Mechanics and Agricultural Mechanization (AGR09)

TYPOLOGY OF FORMATIVE ACTIVITY: Affine

LECTURER: Prof. Paola D'Antonio

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Language: ITALIAN

n. CFU: 9 including 8 lessons and 1 exercise / laboratory. n. Hours .80 Location: Power School: SAFE.		CdS: Course in Agricultural Sciences - University Code 0425 - Class L-25 - Agricultural and Forestry Sciences and Technologies.	Semester:I

FORMATIVE OBJECTIVES AND LEARNING RESULTS

Students will have to acquire the basic notions of general mechanics and applied to machines. Acquire knowledge of machines used for agricultural operations from land preparation to agricultural waste collection and management and their organization at a work site.

Knowledge and understanding skills

The student must demonstrate knowledge of the main groups of machines, their performance and technical characteristics, work organization organization models and address the issues related to their proper management in respect of production, the environment and human health

Autonomy of judgment:

The student should be able to know how to independently evaluate and select the most suitable tools for setting up correct management strategies for crop management and waste management. The student must be able to adapt and / or modify his / her own autonomy of judgment The strategies of choice of machines in relation to the multiple and not always standardizable various endogenous and exogenous factors that determine the type of operation, with regard to satellite technologies.

Communicative Skills:

The student should have the ability to explain, in a simple way, to non-sectoral people the possible use machines for forest use, describing the operation and organization within the yard

o Learning Skills:

The student must be able to update and enrich his / her knowledge continuously through consultation of texts and / or publications, computer tools, participation in courses and seminars in the mechanization sector, using the knowledge gained during the course.

Prerequisites

Good knowledge of physics and mathematics is recommended .

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CONTENTS OF THE COURSE

1st credit: topics discussed in lessons

Recalls of physics and mechanics applied to machines.

2nd credit: topics covered during lessons

Passive resistors and transmissions and endothermic motors.

3rd credit: topics covered during lessons

Agricultural tractor.

4th credit: topics discussed in lessons

Machines for soil cultivation and for sowing, fertilizing and transplanting.

5th credit: topics discussed in lessons

Treatment machines.

6th credit: topics discussed in lessons

Machines for harvesting forage and cereals.

7th credit: topics discussed in lessons

Machines for tree and horticultural crops.

8th credit: topics discussed in lessons

Precision agriculture and satellite systems.

9th credit: topics discussed in lessons

Exercises on: mechanical quantities and unit sizes and their application to machines. Technical visits and laboratory

DIDACTIC METHODS

The course is organized in the following parts:
1) Frontal Teaching: through frontal lessons.
The verification of the acquisition of knowledge will be monitored through the constant teacher-student interaction also by means of the solicitation to ask questions or to propose topics during the lesson. In order to stimulate reflection, the teacher may ask questions to the student so that he / she can To arrive independently on the basis of the acquired knowledge to solve the problem. Written checks will be possible during the course.

2) Exercises: The student with the active participation in the laboratory exercises. By using the practical exercises in the lab the student will have the opportunity to apply the knowledge gained during the lectures

TEACHING VERIFICATION MODES

Verification of learning will take place through an oral exam at the end of the course and will, of course, relate to the topics discussed during the course.

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ON-LINE DEGREE MATERIAL

Agrarian Mechanics, Volume, Unibas Editrice, by A.Arrivo and Paola D'Antonio Agrarian Mechanics, Volume II, Unibas Editrice, by A. Arrivo and Paola D'Antonio.

For the viewing of additional photographic material Compared to the one shown during the lessons or for further information will be provided addresses of internet sites. Notes provided during lessons

METHODS OF MANAGING REPORTS WITH STUDENTS At the beginning of the course, after describing objectives, program and verification methods, the teacher collects the student list, including name, surname, enrollment and email for any communications. Presumable reception time: Monday-Friday from 9am to 11am. These schedules may vary depending on any academic lessons or commitments that will be posted in a special bulletin board. In addition to the weekly reception time, the teacher is available at any time for a student contact, through his or her email or by telephone contact on the fixed telephone.

DATE OF EXAMINATION REQUIRED

Any variations due to academic commitments or lessons will be communicated by mail or by posting in a special bulletin board .

SEMINARS OF EXTERNAL EXPERTS SI X NO

Examination Board:

Prof. Paola D'Antonio (President); Prof. Giovanni Carlo Di Renzo, Prof. Giuseppe Altieri (member).