UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali
ACADEMIC YEAR	2023/2024
BACHELOR'S DEGREE (BSC)	AGRICULTURAL SCIENCES AND TECHNOLOGIES
SUBJECT	AGRICULTURAL MECHANICS AND MECHANISATION
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50120-Discipline dell'ingegneria agraria, forestale e della rappresentazione
CODE	04949
SCIENTIFIC SECTOR(S)	AGR/09
HEAD PROFESSOR(S)	CATANIA PIETRO Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	7
INDIVIDUAL STUDY (Hrs)	115
COURSE ACTIVITY (Hrs)	60
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**CATANIA PIETRO** Monday 11:00 13:00 Dipartimento SAAF Stanza n. 135 Wednesday 11:00 13:00 Sede CdL Viticoltura e Enologia

DOCENTE: Prof. PIETRO CATANIA

PREREQUISITES	Nothing
LEARNING OUTCOMES	Knowledge and understanding. Acquire sufficient knowledge for the selection and use of tractors and machinery. Ability to apply knowledge and understanding. Ability to assess the technical and cultural requirements of farms in relation to the address production. Making judgments. To be able to suggest, in relation to the production sector, the adoption of machines to improve the qualitative and quantitative aspects of agricultural food production. Communicative skills. To be able to use a technically correct language, but simply to advise the farmer to make the appropriate choices of machines depending on their business needs. Learning skills Acquiring the ability to connect the different factors that influence the production adjusting modern knowledge through consultation scientific paper.
ASSESSMENT METHODS	The student will have to answer at least two/three questions Orally, on all parts of the program, with reference To the recommended books. The final examination aims to assess whether the student Have knowledge and understanding of the topics, have acquired Interpretative competence and autonomy of judgment of concrete cases. The threshold of sufficiency will be achieved when the student shows up Knowledge and understanding of the arguments at least in the lines General and has minimum application competencies (to be defined) in Order to resolve concrete cases; Will have to possess it equally Exhibiting and arguing skills such as to allow the Transmitting his knowledge to the examiner. Below This threshold, the examination will be insufficient. The more, however, Examining it with its arguments and exhibits He can interact with the examiner, and the more his Knowledge and application skills go into detail Discipline subject to verification, the more the evaluation will be positive. The evaluation is done with a minimum rating of 18 (threshold of sufficiency) and a maximum of 30 and laud.
EDUCATIONAL OBJECTIVES	Objective of the discipline is to deepen the technical and functional characteristics of the tractors for the mechanization of farming operations. They will be studied the selection criteria and the machines of the production process of the main Mediterranean crop management.
TEACHING METHODS	The teaching is organized in lectures and technical visits carried out in sicilian farms.
SUGGESTED BIBLIOGRAPHY	M. LAZZARI - F. MAZZETTO - Meccanica e meccanizzazione dei processi produttivi agricoli - REDA L. Bodria - G. Pellizzi - P. Piccarolo. Meccanica e meccanizzazione agricola. Edagricole 2013 Appunti del docente.

SYLLABUS

Hrs	Frontal teaching
2	Elements of statics, kinematics and dynamics. fundamental principles of thermodynamics
1	Agricultural machinery. Classification and dissemination.
1	Physical and mechanical properties of the soil.
1	The Tractor: architecture, supporting structure, driving capabilities
2	Internal combustion engines, The transmission components, propulsion, support, direction and braking.
3	Coupling mechanisms and drive public works vehicles. Dynamic Tractor balance. Maximum tractive effort
1	Technical aspects of choice of the tractors.
1	Criteria for operative choice of machines.
2	Machines for tilling and preparation of the seedbed: plows, diggers, hoes, rippers, harrows and rollers.
4	Machines for fertilizing, sowing, transplanting and cultivation.
5	Machines for plant protection.
3	Forages, wheat and tubers harvest machines.
4	Mechanical harvesting of grape.
3	Organization of yard work
2	Mechanical harvesting of nuts
5	Precision agriculture. Positioning systems: GPS and DGPS. Precision viticulture.

Hrs	Practice
8	Functional verification of sprayers.
12	Technical visits to farms