UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali
ACADEMIC YEAR	2024/2025
BACHELOR'S DEGREE (BSC)	VITICULTURE AND OENOLOGY
SUBJECT	CHEMICAL-PHYSICAL ANALYSIS OF AGRICULTURAL SOILS
TYPE OF EDUCATIONAL ACTIVITY	D
AMBIT	10517-A scelta dello studente
CODE	16357
SCIENTIFIC SECTOR(S)	AGR/13
HEAD PROFESSOR(S)	BADALUCCO LUIGI Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	3
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	30
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**BADALUCCO LUIGI** Monday 15:00 17:00 Piattaforma Teams Tuesday 15:00 17:00 Sede CdL Viticoltura ed Enologia Wednesday 15:00 17:00 Sede CdL Viticoltura ed Enologia Thursday 15:00 17:00 Piattaforma Teams

DOCENTE: Prof. LUIGI BADALUCCO

PREREQUISITES	Understanding of inorganic and organic chemistry, as well as of soil chemistry is required.
LEARNING OUTCOMES	Knowledge and understanding skills: the student will acquire the skill to perform the physical and chemical analyses of soils for their characterization based on the official Italian methods. Skill in applying knowledge and understanding: the student will be able to utilize soil data to evaluate the soil fertility and to plan its sustainable use. Autonomy of judgement: the student will be able to interpret soil data and to foresee the soil suitability for vineyard setting up. Furthermore, the student will be able to foresee the flux of soil nutrients. Communication skill: the student will be able to describe the methods of soil analyses and to select the most appropriate for a specific soil. Learning skill: the student will be able to delve into the biogeochemical processes of soil nutrients by using textbooks and research articles published in the category of soil science.
ASSESSMENT METHODS	Interview on the theory, exercises and laboratory determinations made during the course, with particular regard to the interpretation of the values of the main properties of the soil. Participation in laboratory determinations is not a binding condition for taking the exam. The minimum mark is 18; the maximum mark is 30 cum laude; The test is passed with the minimum mark (18) when the student has a basic knowledge of the theory, laboratory equipment and manual expertise to carry out the laboratory test. A score up to 24 is obtained if the student reach a fair assessment, up to 27 for good assessment, and up to 30 for excellent evaluation. Compensatory tools and dispensatory measures will be guaranteed by the Disability and Neurodiversity Center - University of Palermo (Ce.N.Dis.) to students with disabilities and neurodiversity, based on specific needs and in implementation of current legislation.
EDUCATIONAL OBJECTIVES	The student will be provided with the basic theory for soil analysis through the Italian official methods for a sustainable use of soil resource. In particular, during the course, the student will be provided with the methods of soil analysis to understand the soil attitude to tillage, irrigation, vine variety choice and soil fertilisation. At the end of the course, the student will get the required knowledges for the determination of the main physical and chemical soil properties and for the interpretation of soil characterization data.
TEACHING METHODS	The course is structured in frontal lectures and laboratory tests.
SUGGESTED BIBLIOGRAPHY	1.MiPAF, 2000. Metodi di analisi chimica del suolo. Ed. Franco Angeli 2.MiPAF, 2004. Metodi di analisi biochimica del suolo. Ed. Franco Angeli 3.Sequi P., Ciavatta C., Miano T. (Coordinatori), 2017. Fondamenti di chimica del suolo. Patron Editore. Bologna.

SYLLABUS

Hrs	Frontal teaching
4	Recalling basic concepts about soil. Soil composition. Main physical, chemical and biochemical soil properties.
2	Criteria for soil sampling and storing.
1	Soil sieving
2	Determination of available phosphorus

Hrs	Practice
4	Determination of soil texture and structure
3	Determination of total soil nitrogen
4	Presentation and interpretation of soil analytical data

Hrs	Workshops
4	Determination of soil pH, electrical conductivity and total carbonates
4	Determination of soil organic carbon
2	Determination of exchange cation capacity and of exchangeable bases