UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali
ACADEMIC YEAR	2018/2019
MASTER'S DEGREE (MSC)	FORESTRY AND AGRO-ENVIRONMENTAL SCIENCE AND TECHNOLOGY
SUBJECT	FOREST GEOBOTANY
TYPE OF EDUCATIONAL ACTIVITY	C
AMBIT	21013-Attività formative affini o integrative
CODE	03580
SCIENTIFIC SECTOR(S)	BIO/03
HEAD PROFESSOR(S)	GIANGUZZI LORENZO ANTONINO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	100
COURSE ACTIVITY (Hrs)	50
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	1
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**GIANGUZZI LORENZO ANTONINO** Monday 9:00 14:00 Dipartimento di Scienze Agrarie, Alimentari e Forestali Universita degli Studi di Palermo - Viale delle Scienze, ed. 5 (studio del docente, piano terra), I- 90128 - Palermo

DOCENTE: Prof. LORENZO ANTONINO GIANGUZZI

PREREQUISITES	There are no prerequisites, but it is preferable that the student has knowledge of Sistematic Botany and Forest Botany and good autonomy in the determination of plant species.
LEARNING OUTCOMES	Knowledge and ability to understand Geobotany deals with the study of plants and vegetal communities in the biosphere, related with ecological (climatic belts, geo-lithology, etc.), biogeographical, historical and anthropic factors. The course aims to focus attention on the forestal landscape of biotopes of the Mediterranean Region and Sicily also using the phytosociological method. Applying knowledge and understanding The student will be able to perform autonomously the geobotanical analysis on the territory and to describe the species of the vascular flora and the vegetation of natural and semi-natural habitats, also using the phytosociological method. Making judgments The knowledge and methodological competences provided by the course will be useful for the interpretation of scientific texts and reports, with the possibility of transferring the results in professional activity (forest management, environmental regeneration, nature conservation, etc.). Communicative skills The course creates the premises for exposure of concepts of Geobotany and Phytosociology concepts also to a non-expert audience, highlighting the importance of these studies and the eventual applicative implications in the forest management, in the nature conservation and in the environmental regeneration. Learning ability The student will be able to investigate and describe in autonomy the vascular flora and forest communities of natural, semi-natural and anthropogenic habitats. The course also allows to profitably follow of second-level masters and specialized seminars in the forest sector, nature conservation, environmental planning, etc.
ASSESSMENT METHODS	The assessment of learning level will be done through two tests, one in progress (written) and another ex-post (oral); the student must demonstrate the ability to perform autonomously the geobotanical analysis on the territory and to describe the species of the vascular flora and the vegetation of natural and semi-natural habitats, also using the phytosociological method. 1) Test in progress (attending students) - To facilitate an ongoing commitment of the students, during the course there will be a partial test (6 questions about the arguments). Each question will be evaluated with a score ranging from 0 to 5 points, with overall scores of thirty 2) Final test - For attending students the oral examination will be structured in three questions, each of them will be evaluated from a minimum of 0 to a maximum of 10; the final evaluation will be calculated as the mean value of the two tests, with overall scores of thirty. 3) For not attending students, the oral examination will be structured in five questions, each of them will be evaluated from a minimum of 0 to a maximum of 6 points. The following evaluation criteria will be used: a) deep knowledge and ability to apply its concepts promptly and correctly, excellent capacity of synthesis and analysis (rating 30-29; the ”lode” will be assigned to those students that will show excellent knowledge and complete mastery of the material); b) in-depth knowledge of the studied topics and ability to analyze the proposed questions, good capacity of synthesis and exposition of the followed procedures (rating 28-26); c) good knowledge of the studied topics, ability to link these and to apply their content, discrete capacity of analysis of the presented questions and exposure of the procedures followed (rating 25-22); d) basic knowledge of the main topics, limited capacity to apply the gained knowledge and sufficient exposure of the procedures followed (rating 21-18).
EDUCATIONAL OBJECTIVES	The course of Forest Geobotany aims to provide a general review of the ideas and concepts of plant biodiversity at various levels (flora, forestals communities and vegetation series), with particular reference to the aspects that characterize the plant landscape of the Mediterranean Region and Sicily. The course will focus on: a) Territory, habitats and plant adaptations (Geology, Bioclimatology and Fitogeography); b) morphotypes, biology and areal of the Mediterranean plant species (Chorology); c) analysis criteria of the vegetation and plant landscape (Phytosociology, Synphytosociology and Geosynphytosociology); d) Geobotanical cartography.
TEACHING METHODS	The course includes 40 hours of lectures and 10 hours devoted to field work with students.
SUGGESTED BIBLIOGRAPHY	GIANGUZZI L. (2010). Appunti, lucidi e schemi delle lezioni di Geobotanica. – Lecture notes. PIGNATTI S. (1985). Geobotanica. In CAPPELLETTI C., Trattato di Botanica II (Sistematica-Geobotanica). Ed. Utet.

	PIGNATTI S. (1994). Ecologia del paesaggio. – Ed. Utet.

SYLLABUS

Hrs	Frontal teaching
2	Definitions and subdivisions of the discipline. Geo-lithological articulation of the territory and relationships with forest species. The bioclimatic belts of the Mediterranean Region according to the classification of Rivas-Martínez.
2	Bioclimatic belts in the Sicily Region (umbrotype and thermotype): 1) Inframediterranean; 2) Thermomediterranean; 3) Mesomediterranean; 4) Supramediterranean; 5) Oromediterranean; 6) Crioromediterranean.
2	Flora end Phytogeography. The Miocene in the Mediterranean region. Quaternary glaciations and effects on the Mediterranean forest flora. Tertiary, glacial and xerothermic relicts in the woods of the Italy and Sicily.
2	The biological forms of the plants. Biological spectrum.
2	Chorology - The areal: shape, extension, unitary and disjoint areal. Chorotypes. Chorological spectrum.
2	The plant landscap and forest of Sicily.
2	Phytosociology. The methodology proposed by Braun-Blanquet. The plant association. The phytosociological relevé. The floristic list. Minimal area.
2	Elaboration of the phytosociological relevés. Phytosociological table.
2	The synoptic table. The upper units to the association. Syntaxonomical scheme of the woods and of the forestals aspects in Sicily.
2	Dynamic Phytosociology (Symphytosociology and Geosymphytosociology): vegetation series and geoseries. Climatophilous series and edaphics series.
2	The phytosociological studies of Mediterranean forest vegetation: the class Quercetea ilicis.
2	Mediterranean maquis (cl. Quercetea ilicis, ord. Pistacio-Rhamnetalia alaterni).
2	Mediterranean woods on calcareous lithotypes dominated by Quercus ilex or deciduous oaks of the Quercus pubescens group (cl. Quercetea ilicis, ord. Quercetalia ilicis, all. Fraxino-Quercion ilicis).
2	Mediterranean woods on silicate lithotypes dominated by Quercus suber, Quercus ilex or deciduous oaks of the Quercus pubescens group (cl. Quercetea ilicis, ord. Quercetalia ilicis, all. Erico-Quercion ilicis).
2	Deciduous woods with prevalence of other oaks of the order Quercetalia pubescenti-petraea (cl. Querco roboris-Fagetea sylvaticae).
2	Deciduous woods with prevalence of Quercus cerris or Fagus sylvatica (ord. Fagetalia sylvaticae, cl. Querco roboris-Fagetea sylvaticae).
2	Oro-mediterranean pine forests (cl. Junipero-Pinetea) and orophylous cushion-like shrubs. Vegetation of sandy coastal stations and sea cliffs.
2	Vegetation of the river stretches: ecology, species and sintaxonomy.
2	Riparian and dwarf woods with prevalence of Populus sp. pl. (cl. Salici purpureae-Populetea nigrae), Salix sp. pl. (cl. Salicetea purpureae) or Tamarix sp. pl. and Nerium oleander (cl. Nerio-Tamaricetea).
2	Vegetation belts of Sicily. Geobotanical mapping in the forest sector. Vegetation maps and nature conservation in Sicily.

Hrs	Practice
2	Exercises in field on forests species of Sicily (Botanical Garden of the University of Palermo).
2	Exercises in field on forests species of Mediterranean Region (Botanical Garden of the University of Palermo).
2	Field exercises on the implementation of the phytosociological survey.
4	Field tutorials on the study of forest vegetation and the analysis of the plant landscape.