UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali
ACADEMIC YEAR	2022/2023
MASTER'S DEGREE (MSC)	AGRICULTURAL PRODUCTIONS AND TECHNOLOGIES
SUBJECT	TURFGRASS SCIENCE AND MANAGEMENT
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50544-Discipline della produzione
CODE	15478
SCIENTIFIC SECTOR(S)	AGR/02
HEAD PROFESSOR(S)	SARNO MAURO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	90
COURSE ACTIVITY (Hrs)	60
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	1
TERM (SEMESTER)	2° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**SARNO MAURO** Tuesday 10:00 11:00 Dipartimento di Scienze Agrarie, Alimentari e Forestali (S.A.A.F.) - V.le delle Scienze, Edificio 4 - Ingresso L - Piano 2° - Stanza 8 Thursday 10:00 11:00 Dipartimento di Scienze Agrarie, Alimentari e Forestali (S.A.A.F.) - V.le delle Scienze, Edificio 4 - Ingresso L - Piano 2° - Stanza 8

DOCENTE: Prof. MAURO SARNO

PREREQUISITES	Agronomy, pedology or soil chemistry, plant physiology
LEARNING OUTCOMES	Acquire specific knowledge of the "grass-atmosphere-soil " system, taking into account the different characteristics of the three systems also in relation to the various and particular agronomic techniques. Acquire skills concerning the problems of design, implementation, and management of turf for different purposes (technical, ornamental, and sports), in different soil and climatic environments. Ability to solve complex problems related to environmental issues and turf management considering the cost /benefit ratio also. Comprehension of a systemic and integrated vision of the agronomic issues of turf and the methods of investigation. Autonomy of judgment- The student will be able, in total autonomy, to judge the different issues affecting turf and turfgrass and to evaluate and to decide the most appropriate agronomic means necessary to the solution. Ability to use the technically correct language in addressing the choices of technicians for the optimization of the agronomic practices for turf, in accordance with the current law. Be able to understand and learn texts and academic papers also in English. Ability to connect the different factors involved in turf production and participate in research and experiments relating to the turf.
ASSESSMENT METHODS	The candidate will have to answer at least two / three oral questions, on the whole program, with reference to the recommended texts. The candidate must submit a technical agronomic report on the construction of turf in a place and type of his choice. The report will be discussed. The candidate must be able to give reasons for the choices made, and therefore the more exact the report and the choices are, the more the candidate is able to motivate these choices, the higher the score will be. The final assessment aims at evaluating whether the student has knowledge and understanding of the topics if he has acquired the right skills to interpret and analyze some concrete cases. The pass mark will be reached when the student shows knowledge and understanding of the subjects, at least in general terms. He has minimal knowledge skills to solve concrete cases; he must also show presentation skills to expose his knowledge to the examiner. Below this threshold, the examination will be insufficient. The more, however, the examinee with his argumentative and presentation skills can interact with the examiner, and he can go into more details on the subject, the more the assessment will be positive. The assessment will be evaluated out of thirty. Minimal knowledge skills The candidate must be able to list, interpret and use the environmental factors needed for a proper agronomic intervention plan (ex. for a fertilization plan).
EDUCATIONAL OBJECTIVES	The course aims to provide the most 'up to date knowledge and skills related to the design, implementation, and management of various types of turfs (technical, ornamental, recreational, and sports).
TEACHING METHODS	Lectures in the classroom and the field, exercises in the classroom
SUGGESTED BIBLIOGRAPHY	- “TAPPETI ERBOSI” di A. Panella, P. Croce, A. De Luca, M. Falcinelli, F.S. Modestini, F. Veronesi. Ed.: Calderini-Edagricole (1° edizione: novembre 2000 e successive); - “Turfgrass management” di A.J. Turgeon, Ed.: Prentice Hall (7° ed. e successive); - Materiale didattico (articoli e pubblicazioni) fornito dal docente durante il corso.

SYLLABUS

Hrs	Frontal teaching
4	History of Turf. Importance of turf. The turfgrass industry. The different turfgrass purpuse. Environmental benefit.
8	Growth and development of grass plant. Morphological description. How to identify the different turfgrass species. Cool season and warm season species for turfgrass
6	Intercropping of species or varieties. Competition concept. Succession concept. Criteria for composing a mixture or blend. Examples of stable intercropping system.
9	THE CONSTRUCTION of turf for different uses. Removal of existing vegetation. Tillage. The collection of stones. The construction of drainages systems. The installation of irrigation system. Soil correction and amendment. The fertilization. The soil for seeding. Sowing and vegetative propagation.
8	PRIMARY CULTURAL PRACTICES THE MOWING: Agronomic e fisiology effect of mowing on turfgrass. THE FERTILIZATION: Agronomic and fisiology effect of fertilization on turfgrass. THE IRRIGATION: Agronomic and fisiology effect of fertilization on turfgrass SUPPLEMENTARY CULTURAL PRACTICES THE CULTIVATION of turfgrass and the agronomic and fisiology effect of on turfgrass Other CULTIVATION PRACTICES: topdressing, verticutting, thatch control, rolling and overseeding

SYLLABUS

Hrs	Frontal teaching
6	THE Weed controll in turfgrass Definition and classification of more 'common weeds in turfgrass, the biology of weeds. Reproduction and dissemination in turfgrass The ecology of weeds. colonization strategies. The dynamics of populations within the "cultivated" areas. The damage caused by weeds in turfgrass, chemical management and control systems in the pre-emergency and post-emergency, non-chemical means of control: agronomic, mechanical, physical, biological, ecological.
3	TURFGRASS PEST MANAGEMENT (notes)

Hrs	Practice
2	How to identify the different turfgrass species
2	Fertilization plan

Hrs	Workshops
4	Technical tour in professional golf course.
2	Technical tour in professional soccer field.
2	Technical tour in semi-professional golf course.
2	Technical tour in professional training soccer fied.
2	Tour in a public recreation turfgrass close to the sea