



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali		
ACADEMIC YEAR	2020/2021		
BACHELOR'S DEGREE (BSC)	AGRICULTURAL SCIENCES AND TECHNOLOGIES		
SUBJECT	CROP SCIENCE		
TYPE OF EDUCATIONAL ACTIVITY	B		
AMBIT	50125-Discipline della produzione vegetale		
CODE	12498		
SCIENTIFIC SECTOR(S)	AGR/02		
HEAD PROFESSOR(S)	GIAMBALVO DARIO	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)	2° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	GIAMBALVO DARIO Monday 08:30 13:30 Stanza docente (Edificio 4, ingresso L, secondo piano)		

DOCENTE: Prof. DARIO GIAMBALVO

PREREQUISITES	Botany, Agronomy
LEARNING OUTCOMES	Knowledge and understanding At the end of the course, students will have acquired basic knowledge on the ecological and physiological aspects of the main field crops of the Mediterranean area, and, moreover, on their environmental adaptability. Furthermore, they will have acquired knowledge useful to plan and organize agronomic interventions, proper crop sequences and rational management strategies of the cropping systems. Applying knowledge and understanding Students will be able to select solutions to problems related with the management of field cropping systems and to evaluate the results and consequences of their choices, paying particular attention to agronomic, ecological and health aspects. Making judgements Students will be able to provide, in relation to the context, business, technical, and management recommendations aimed to improve both the productive and quality performances of the field crop systems. Communication skills Students will be able to utilize a language basic but technically correct in order to ensure an efficient transfer of the acquired knowledges on field crops to farmers and other professionals of this sector. Students will be able to support the validity of their choices from the productive and qualitative points of view and to highlight the environmental consequences of their actions. Learning skills At the end of the course, students will have acquired the capacity to link each other the factors that affect field crop productions. Moreover, they will be able to keep up-to-date on their own by consulting technical and scientific publications and, also, to follow Master's programs, in-depth courses, and/or specialized seminars on technical aspects related to field crops.
ASSESSMENT METHODS	The learning will be assessed through an oral examination. In this exam the students will have to answer questions about the topics of the course, and they have to show an adequate knowledge, acquisition of interpretative skills, capacity of connecting and processing the arguments, as well as a relevant presentation capacity. The final grade will be expressed in thirtieth and will be judged insufficient when the student will demonstrate: difficulty to focus on the proposed topics, a shallow knowledge of the arguments and extreme limited exposure ability. The sufficiency threshold will be reached when the student will show knowledge and understanding of the topics at least in general lines and have minimal applicative skills in order to solve application cases; he must equally possess exhibition skills and language properties appropriate to the type of teaching. As the degree of details of the proven knowledge increase will proportionally increase the positivity of the grade. The maximum score will be obtained in case of excellent mastery and critical-interpretative jurisdiction of the subject content of the course and a good exposition proved by the use of proper scientific terminology.
EDUCATIONAL OBJECTIVES	The course aims to provide technical and scientific knowledge useful to plan and organize agronomic interventions, proper crop sequences and rational management strategies of the cropping systems of the Mediterranean environment. The organization of the topics covered will allow to: - achieve an adequate knowledge on the morphological, bio-physiological, and ecological characteristics of the main herbaceous agricultural species; - acquire an adequate knowledge on technical itineraries applicable to the different crops (preceding crop, soil tillage system, fertilization, choice of cultivar, sowing, weed and pest management, irrigazione, harvest, storage and end use of the productions), in relation to the pedo-climatic environment, to the quality and quantity of the productions, to the farmer's needs and to the preservation of the natural resources.
TEACHING METHODS	Lessons, technical visits in farms growing field crops (cereals, legumes, forages, etc.)
SUGGESTED BIBLIOGRAPHY	Baldoni R., Giardini L. (2000). Coltivazioni erbacee (1 - Cereali e proteaginose; 2 - Piante oleifere, da zucchero, da fibra, orticole e aromatiche; 3 - Foraggiere e tappeti erbosi). Ed. Patron.

SYLLABUS

Hrs	Frontal teaching
1	Introduction to the course: educational objectives, organization of the lessons and of the final examination, connections with the other courses of the Bachelor's Degree.
12	Cereal crops: overview; botanical classification, diffusion, economic importance, morpho-physiological characteristics, environmental needs, techniques of cultivation, utilization and quality of products of: wheat, barley, oat, triticale, maize, sorghum.

SYLLABUS

Hrs	Frontal teaching
10	Grain legumes: overview; botanical classification, diffusion, economic importance, morpho-physiological characteristics, environmental needs, techniques of cultivation, utilization and quality of products of: faba bean, chickpea, lentil, pea, grasspea.
5	Oil plants: overview; botanical classification, diffusion, economic importance, morpho-physiological characteristics, environmental needs, techniques of cultivation, utilization and quality of products of: soybean, sunflower, oilseed rape, safflower.
12	Forage crops: overview; techniques of utilization: grazing, hay and silage making; annual forage crops (barley, ryegrass, triticale, vetch, annual clovers, fenugreek, maize); perennial forage crops (alfalfa, sulla, sainfoin, white clover, grass species); self-reseeding species (subterranean clover, annual medics); intercropping; pastures (definition, overview, evaluation, productivity, utilization methods, improvement techniques, organization of pastoral activity); forage systems.
Hrs	Others
20	Technical visits to farms working in the sector of field crops. Issues related to the crops' productions, defense and marketing of the products will be addressed. Seminars on issues related to the management of herbaceous cropping systems in the Mediterranean environment, involving farmers and qualified technicians.