



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche		
ACADEMIC YEAR	2023/2024		
BACHELOR'S DEGREE (BSC)	ANIMAL PHARMACEUTICALS AND NUTRACEUTICALS		
INTEGRATED COURSE	BOTANY FOR VETERINARY SCIENCE AND PHARMACOGNOSIS - INTEGRATED COURSE		
CODE	22949		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	BIO/02, BIO/14		
HEAD PROFESSOR(S)	VENTURELLA FABIO	Ricercatore	Univ. di PALERMO
OTHER PROFESSOR(S)	TROIA ANGELO	Ricercatore a tempo determinato	Univ. di PALERMO
	VENTURELLA FABIO	Ricercatore	Univ. di PALERMO
CREDITS	12		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	1		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	<p>TROIA ANGELO</p> <p>Monday 15:00 17:00 Sede del Consorzio Universitario, corso Vittorio Emanuele, 92, 93100 Caltanissetta</p> <p>Tuesday 10:00 12:00 Dipartimento STEBICEF, via Archirafi 20, V piano (previo appuntamento). - NB: Il docente e' pienamente disponibile a concordare giorni od orari diversi da quello specificato, sempre previo appuntamento (per appuntamento, scrivere a: angelo.troia@unipa.it)</p> <p>VENTURELLA FABIO</p> <p>Monday 11:00 13:00 Via archirafi numero 20 al quinto piano</p> <p>Wednesday 11:00 13:00 Via archirafi numero 20 al quinto piano</p>		

DOCENTE: Prof. FABIO VENTURELLA

PREREQUISITES	Basic notions of general and systematic botany, including the main species/families of veterinary/zootechnical interest and General Chemistry
LEARNING OUTCOMES	Ability to apply knowledge and understanding: Students will develop the ability to use the acquired knowledge in order to understand the functioning and role of plants and active ingredients -Judgment autonomy :Ability to follow a rigorous scientific method to understand plant diversity, the correct use of active ingredients and possible side effects- Communication skills: Ability to discuss topics of plant biology and Pharmacognosia using an appropriate scientific language. Ability to work in groups, exchanging ideas and practical information. Learning skills: Students will learn to update their scientific knowledge in the field of plant biology and modern Pharmacognosy
ASSESSMENT METHODS	The oral exam consists in an interview and aims at verifying the possession of the competences and disciplinary knowledge to be acquired at the end of the course; the evaluation is expressed 18-30-30 with honors marks. The student must answer at least six\seven questions on all the parts object of the program, with reference to the didactic material and possible suggested textbooks. The maximum score is achieved if the student shows to have full possession of the ability to expose, with good use of scientific language, the contents object of the course. The evaluation will be 'unsatisfactory' if the student shows a degree of preparation which is not considered acceptable with reference to the specific professional context
TEACHING METHODS	Frontal Lessons

**MODULE
VETERINARY BOTANY**

Prof. ANGELO TROIA

SUGGESTED BIBLIOGRAPHY

Pasqua G., Abbate G., Forni C. (2019) Botanica generale e diversità vegetale. Piccin-Nuova Libreria, 2019.
Mauseth J. D. (2019) Botanica – Fondamenti di Biologia delle Piante IV Ed. Edizioni Idelson Gnocchi.

AMBIT	10697-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48

EDUCATIONAL OBJECTIVES OF THE MODULE

The educational objective of the module is to make the student acquire the basic notions of general and systematic botany, and to introduce him/her to the main species/families of veterinary/zootechnical interest. Alongside the morphological and evolutionary characteristics of the main groups of vascular plants (with hints at algae and fungi), aspects related to taxonomy and scientific nomenclature will also be explored.

SYLLABUS

Hrs	Frontal teaching
6	Introduction to the course. Systematic classification of living beings. Systematic overview of the plant kingdom and main groups. Binomial nomenclature, concept of species, varieties, cultivars and hybrids.
6	What is a plant. The parts of the plant. How a plant works. Soil-plant-atmosphere continuum and water balance. Notes on mineral nutrition, metabolites, chemical composition of plants and their importance in animal nutrition.
6	The plant cell and its peculiarities. Tissues: general information and development. The meristematic and the definitive tissues (tegumental, parenchymatic, secretory/excretory, mechanical and vascular).
6	Photosynthesis
6	Cormophytes: Bryophytes, Pteridophytes, Gymnosperms and Angiosperms and their evolution in relation to the progressive independence from water. Examples of life cycles. Reproduction. Flower, fruit, seed.
6	Cormophyte organs. Morphology, anatomy and functions of root, stem and leaf.
12	General traits of Angiosperm families of zootechnical and toxicological importance (Fagaceae, Ranunculaceae, Brassicaceae, Caryophyllaceae, Euphorbiaceae, Rosaceae, Fabaceae, Apiaceae, Solanaceae, Asteraceae, Gramineae, Liliaceae, Araceae).

**MODULE
PHARMACOGNOSIS**

Prof. FABIO VENTURELLA

SUGGESTED BIBLIOGRAPHY

Mazzanti et al. Farmacognosia e Fitoterapia (Piccin,2020)

Materiale didattico fornito dal Docente

AMBIT	50145-Discipline Biologiche
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48

EDUCATIONAL OBJECTIVES OF THE MODULE

The course aims to provide information on the main veterinary medicinal plants and herbal drugs in terms of the content of active ingredients and their related pharmacological activity

Ability to apply knowledge and understanding: the student, applying the acquired knowledge, must be able to:

use the main medicinal plants for veterinary use in maintaining the good health of domestic animals and in preventing their pathologies . Judgment:Being able to evaluate the answers to practical or theoretical problems mainly in the field of

nutraceuticals and animal pharmaceuticals.Ability 'communicative: Ability' to communicate clearly and with appropriate

language with specialist interlocutors and be experts in prevention and information in the field of Pharmacognostic-Learning

Skills: Ability to keep up to date by consulting scientific publications in the field of bio 14. Ability' to participate, using the

acquired knowledge, both refresher courses , both specialized seminars in the field of Phytotherapy applied to animal care

SYLLABUS

Hrs	Frontal teaching
5	Definitions Phytotherapy, Drugs, Medicine. Basic principles of pharmacokinetic and pharmacodynamic action
5	Secondary metabolites : Alkaloids, Glycosides, other secondary metabolites
10	Active substances on S.N.C
5	Active substances on the cardiovascular system
5	Hepatoprotectors and probiotics
8	Toxic plants, poisonous mushrooms
5	Skin and urinary tract disinfectants
5	Laxatives, purgants, emetics