



# UNIVERSITÀ DEGLI STUDI DI PALERMO

<b>DEPARTMENT</b>	Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche		
<b>ACADEMIC YEAR</b>	2020/2021		
<b>MASTER'S DEGREE (MSC)</b>	BIODIVERSITY AND ENVIRONMENTAL BIOLOGY		
<b>INTEGRATED COURSE</b>	PROTECTION AND MANAGEMENT WITH PRACTICE - INTEGRATED COURSE		
<b>CODE</b>	15273		
<b>MODULES</b>	Yes		
<b>NUMBER OF MODULES</b>	2		
<b>SCIENTIFIC SECTOR(S)</b>	BIO/05, BIO/03		
<b>HEAD PROFESSOR(S)</b>	SAJEVA MAURIZIO	Professore Associato	Univ. di PALERMO
<b>OTHER PROFESSOR(S)</b>	SAJEVA MAURIZIO	Professore Associato	Univ. di PALERMO
	LO VALVO MARIO	Professore Associato	Univ. di PALERMO
<b>CREDITS</b>	12		
<b>PROPAEDEUTICAL SUBJECTS</b>			
<b>MUTUALIZATION</b>			
<b>YEAR</b>	1		
<b>TERM (SEMESTER)</b>	1° semester		
<b>ATTENDANCE</b>	Not mandatory		
<b>EVALUATION</b>	Out of 30		
<b>TEACHER OFFICE HOURS</b>	<p><b>LO VALVO MARIO</b></p> <p>Monday 9:00 11:00 plesso di Biologia Animale – Via Archirafi, 18 – 90123 Palermo</p> <p>Tuesday 9:00 11:00 plesso di Biologia Animale – Via Archirafi, 18 – 90123 Palermo</p> <p><b>SAJEVA MAURIZIO</b></p> <p>Monday 10:00 12:00 Studio del docente in via Archirafi 20, quinto piano. E' preferibile prenotare il ricevimento scrivendo a maurizio.sajeva@unipa.it, con la possibilta di scegliere altri giorni secondo la disponibilita.</p>		

DOCENTE: Prof. MAURIZIO SAJEVA

<b>PREREQUISITES</b>	Basic knowledge of zoology and botany
<b>LEARNING OUTCOMES</b>	Capability to understand adaptation and the basis of evolution. Acquisition of the tools for preparing ecological and conservation studies. Making autonomous judgments. Capability to evaluate results and implications of the results obtained. To evaluate with critical spirit the information supplied by the media which regard own competences by using the competences acquired during the course. Capability to communicate the results of investigations. To be able to evaluate the environmental fall-out of conservation activities. Capability to update by searching appropriate publications and literature. Capability to attend second level Master courses. The course will introduce to the principles of animal and plant ecology, their relationships to the environment, how they developed in evolution and which factors determine their growth and survival. The course will also focus on the role of Plant Ecology in the major international conventions on nature conservation (CBD and CITES) and in the national and the EU legislation.
<b>ASSESSMENT METHODS</b>	The final oral exam consists in a talk aimed at demonstrating knowledge and understanding of the program topics (including lab practicals), ability to analyze and combine information obtained during the course, verbal communication skills and use of appropriate scientific terminology. The exam will start with a topic chosen by the student, followed by one or two questions to evaluate the level of knowledge gained by the student. The sufficiency threshold (18 to 20/30) will be met by demonstrating to the examination board at least a general knowledge and understanding of the subjects and basic communication skills. Grades between 21/30 and 26/30 will be granted to students with good communication and language skills, and able to co-ordinate different topics. Students with excellent communication and language skills who will deepen the subjects with critical spirit will obtain grades between 27 and 30/30. Laude will be granted to students who will independently deepen the subjects by consulting scientific papers available through the data-bases of Unipa.
<b>TEACHING METHODS</b>	Lessons, labs and field observations

## MODULE APPLIED ZOOLOGY FOR BIODIVERSITY CONSERVATION

*Prof. MARIO LO VALVO*

### SUGGESTED BIBLIOGRAPHY

Lovari e Riga, 2016. Manuale di gestione della fauna. Greentime  
Meriggi, Dessi-Fulgheri. Principi e tecniche di gestione faunistico venatoria. Greentime  
ISPRA. 2007. Linee guida per l'immissione di specie faunistiche.  
Dispense del docente

<b>AMBIT</b>	50506-Discipline del settore biodiversità e ambiente
<b>INDIVIDUAL STUDY (Hrs)</b>	98
<b>COURSE ACTIVITY (Hrs)</b>	52

### EDUCATIONAL OBJECTIVES OF THE MODULE

The main goal of the module is the acquisition of students' knowledge of the laws and conventions about the fauna protection and conservation and the main techniques for the census and fauna monitoring, by the application, on field, of different methods, and analysis, in the classroom, of the data collected using specific softwares (also Using the Geographic Information systems) and electronic spreadsheets.

## SYLLABUS

Hrs	Frontal teaching
6	Regional, national and international laws and directives on the protection of wild animal species
10	Introductions, reintroductions, restocking and eradications
4	Biological invasions
9	Wildlife census and monitoring techniques
4	Use of Geographic Information Systems in wildlife conservation
7	Protection and management of Sicilian Fauna
Hrs	Practice
4	Radiotracking application
4	Application of GIS analysis in the management of fauna
4	Application of wild animals monitoring techniques

## MODULE PLANT ECOLOGY

*Prof. MAURIZIO SAJEVA*

### SUGGESTED BIBLIOGRAPHY

Pubblicazioni fornite dal docente/scientific papers provided by the professor

Suggested books:

Larcher W., 2013 Physiological Plant Ecology: Ecophysiology and Stress Physiology of Functional Groups.

Mauseth (2006) Botanica. Parte generale. Idelson-Gnocchi

<b>AMBIT</b>	50506-Discipline del settore biodiversità e ambiente
<b>INDIVIDUAL STUDY (Hrs)</b>	102
<b>COURSE ACTIVITY (Hrs)</b>	48

### EDUCATIONAL OBJECTIVES OF THE MODULE

Capability to understand adaptation and the basis of evolution. Acquisition of the tools for preparing ecological and conservation studies. Making autonomous judgments. Capability to evaluate results and implications of the results obtained. To evaluate with critical spirit the information supplied by the media which regard own competences by using the competences acquired during the course.

Capability to communicate the results of investigations. To be able to evaluate the environmental fall-out of conservation activities. Capability to update by searching appropriate publications and literature. Capability to attend second level Master courses.

The course will introduce to the principles of plant ecology, why plants are the way they are, their relationships to other living beings, how they developed in evolution and which factors determine their growth and survival. An introduction to basic plants physiology will give the information needed to better understand how plants may adapt to extreme environments. The course will also focus on the role of Plant Ecology in the major international conventions on nature conservation (CBD and CITES).

## SYLLABUS

Hrs	Frontal teaching
4	Ecology of photosynthesis: CAM and C4
8	Succulence as a strategy to avoid water stress: losing leaves (Cactaceae as a case study), losing stems (Lithops as a case study). Evolution of photosynthetic stems in family Cactaceae
6	Introduction to pollination: abiotic and biotic. Generalism and specialization. Case studies: sapromyophily - chiropterogamy in Cactaceae
8	Secondary metabolites. Semiochemicals and plant-insect relationship
2	Zelkova sicula: ecology and conservation of a Sicilian endemic
2	In vitro plant cells culture: application to plant ecology
6	CITES: structure and the role of plant ecology in its implementation
4	CBD and plant ecology
4	Methods to collect Volatile Organic Compounds (VOCs). Olfactometer
4	The evolution of succulence: practical examples at the botanical garden