COURSE DETAILS

"MANAGEMENT OF MEDITERRANEAN FOREST ECOSYSTEMS"

* *In case of an integrated course, the SSD (scientific disciplinary sector) should be written above only if all modules of the course belong to the same SSD, otherwise the SSD is to be written alongside the MODULE (see below).*

DEGREE PROGRAMME: FORESTRY AND ENVIRONMENTAL SCIENCES

ACADEMIC YEAR 2021-2022

GENERAL INFORMATION – TEACHER REFERENCES

TEACHER: PROF. DANILO RUSSO
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GENERAL INFORMATION ABOUT THE COURSE

INTEGRATED COURSE: MANAGEMENT OF MEDITERRANEAN FOREST ECOSYSTEMS
MODULE: LABORATORY OF BIODIVERSITY CONSERVATION (SSD: BIO/07)
YEAR OF THE DEGREE PROGRAMME: II
SEMESTER: II
CFU: 8

REQUIRED PRELIMINARY COURSES (IF MENTIONED IN THE COURSE STRUCTURE "ORDINAMENTO")

None

PREREQUISITES (IF APPLICABLE)

General knowledge of biology, botany, zoology and ecology acquired in the first-level university degree

LEARNING GOALS

The main goal of this course is to offer the students an in-depth presentation of the main issues regarding biodiversity conservation, both in general and with special emphasis on the Mediterranean region, and devote special space to wildfires, a critical stressor in such region. The course will also provide advanced knowledge of the techniques used to manage the environmental factors causing biodiversity decline and allow the students to master the main strategies adopted in conservation biology and wildfire management.

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

The student has to: (I) understand the dynamics ruling loss of biodiversity and ecosystem services; (II) know the methods and strategies used in conservation biology to study ecological dynamics and processes that are important to protect and manage biodiversity; (III) know and understand the strategies to design and manage protected areas. The course will have a special focus on practicals to allow the students to acquire hands-on experience and demonstrate full awareness of the processes and methods covered.

Applying knowledge and understanding

The student will understand the processes governing biodiversity erosion and the action needed to counter it. Moreover, they will be able to select and apply methods to assess the conservation status of biological resources (with special reference to wildlife) and evaluate the application of the different strategies of nature management and conservation.

COURSE CONTENT/SYLLABUS

The course is made of two modules, Laboratory of Biodiversity Conservation (8 CFU) and Fire Ecology and Forest Fires (6 CFU). As for the former, the syllabus is as follows:

- Biodiversity: definitions, spatial and temporal scales, approaches to measuring biodiversity, ecosystem
- processes and dynamics (1 CFU)
- Deterministic processes causing loss of biodiversity: habitat loss and alteration, overharvesting, alteration
- of environmental conditions at local and global scales, climate change, biological invasions (2 CFU)
- Bioindication (1 CFU)
- Ecological and behavioural methods for the study of wildlife, counting and monitoring techniques (3 CFU)
- Principles of nature reserve planning and management (1 CFU)

READINGS/BIBLIOGRAPHY

- Russo D., Sulli C. (2012). Conservazione della Natura e Gestione delle Aree Protette. Liguori Primack R.B., Boitani L. (2013). Biologia della Conservazione. Zanichelli
- Open access articles covered in the lectures

TEACHING METHODS

Lectures will constitute ca. 50% of total teaching time, also using online material such as YouTube videos, and the remainder will consist of field practicals, especially but not only in nature reserves.

EXAMINATION/EVALUATION CRITERIA

a) Exam type:

Exam type	
written and oral	
only written	x
only oral	
project discussion	
other	

In case of a written exam, questions refer to: (*)	**Multiple choice answers**	x
	Open answers	
	Numerical exercises	

(*) multiple options are possible

b) Evaluation pattern:

In the test, only correct answers will be evaluated and the final mark will be weighted based on the number of credits of each module, as follows: LABORATORY OF BIODIVERSITY CONSERVATION, 8CFU: 57%; FIRE ECOLOGY AND FOREST FIRES, 6 CFU, 43%