Università
Ca'Foscari
Venezia

Ca'Foscari
School for
International
Education

Syllabus – Prof. Brigolin

Official course title	The Ecosystem of the Venetian Lagoon
Academic Year	2018/2019
University credits	6 ECTS
Semester/trimester	1st semester
Hours	30 hrs (12 lessons 2 ½ hrs)
Where/Room	0C Palazzo Moro
Professor	Daniele Brigolin

Contents

- Ecology as a science, an introduction. Mediterranean lagoons. The lagoon of Venice, geo-morphological aspects, historical introduction;
- Ecology of the organisms: aquatic and terrestrial environment;
- Adaptations of individuals: limiting factors and ecological niches;
- Primary production in the lagoon: phytoplankton, macro-algae, sea-grasses;
- Secondary production in the lagoons: benthos, fish;
- Populations: examples of interactions in the lagoon, competition and predation;
- Grazing versus detritus chains: food webs in the lagoon of Venice;
- Seasonality, the role of physical factors in controlling the dynamics of the lagoon ecosystem;
- Bio-geochemistry of the Venice lagoon: the role of sediments, detritus and nutrient cycles;
- Submerged macro and micro habitats of the lagoon: dominant species and their abundance, structure of the community;
- Salt marshes and dunes, birds, vegetation and associated ecosystem services;
- Fisheries and aquaculture in the lagoon and in the nearby "Valli da pesca";
- The Venice lagoon: history of interventions, conservation and restoration activities.
- Climate change and the lagoon, expected impacts and adaptation.

San Sebastiano
Dorsoduro 1686
30123 Venice
Italy

T. +39 041 234 7376
7377–7378–7313
F. +39 041 234 7375
cfsie@unive.it

P.IVA 00816350276
C.F. 80007720271

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Educational Goals

The course provides an overview on the Venice lagoon environment from an ecological perspective. The general aim is contributing to the knowledge necessary for understanding ecosystem services, effects of anthropogenic pressures on the lagoon, and management requirements in the context of global changes. An introduction on basic ecological principles is provided, by using specific examples from marine ecology. The focus is at different levels – individual, population, community, ecosystem and landscape. The course will help understanding adaptations of plant and animal organisms in the lagoon environment, the factors that regulate population growth and the species spatial distribution in different habitats, the role of biological interactions in determining the structure of communities and the functioning of food webs, the biogeochemical cycling of elements in the lagoon ecosystem.

Recommended Reading List

Elements of ecology, 9th edition, by Thomas Smith, Robert Smith, Pearson, 2015.

Marine ecology. Processes, systems and impacts (second edition). M.J. Kaiser et al., 2011. Oxford University Press.

Assessment

Written test.

Teaching Methods

During the lecture students are invited to debate the topics presented in class. Powerpoints will be made available.

Teaching Language

English.

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