UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

ECOLOGY

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/07 (ECOLOGY)
Department	DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES
Course	NATURAL SCIENCES AND TECHNOLOGIES
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	2nd semester (01/03/2022 - 10/06/2022)
ECTS	6
Lesson hours	51 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	SCONFIETTI RENATO LUIGI (titolare) - 3.5 ECTS MARCHINI AGNESE - 1 ECTS OCCHIPINTI ANNA CARMEN - 1.5 ECTS
Prerequisites	The following courses of the first year are preparatory to Ecology: General and Inorganic Chemistry, Organic Chemistry and Biochemistry, Elements of Physics, with particular reference to: molecular structure of the matter, chemical bonds, redox reactions, the chemical-physical properties of water, the laws of thermodynamics. The understanding of Ecology also requires knowledge of General and evolutionary Zoology, General Botany and Genetics.
Learning outcomes	Main aim of the course is to provide students with the basic knowledge necessary to understand the complexity of the interactions that allow the functioning of the ecosystems.
Course contents	1.Introduction to Ecology and defintions. 2.Ecological factors: temperature, water, light, pressure, density and

	salinity. Organisms ecological tolerance and limiting factors. Macro and microclimates. 3. Biogeochemical cycles of the main elements (water, Nitrogen, Phosphorus, Oxygen, Calcium and Magnesium). Eutrophication. 4. Population properties and intraspecific regulation. Species interactions and adaptative strategies. 5.Community and ecosystem ecology. 6.Bioindicators of environmental quality
Teaching methods	The course includes lectures and exercises in the classroom. Lectures are based on Power Points presentations, which are available for the students on the moodle platform KIRO, in the course section. For the learning of some topics involving an analytical-quantitative approach, some exercises are proposed in the classroom, to be solved by the lecturer together with the students. Additionally, the course includes 0.5 credits of fieldwork (a day trip). Course attendance is strongly advised.
Reccomended or required readings	SMITH T.M. & SMITH R.L. Elementi di Ecologia 8 Edizione. Casa Editrice Pearson
Assessment methods	The oral exam aims to verify the capability of personal elaboration ofìthe main concepts presented during the course and to correlate the different issues within an ecosystem approach.
Further information	Additional studying and working material will be directly provided by the teachers on UNIPV KIRO website (http://kiro2014.unipv.it.idcd/) together with the Powerpoint presentations used in class, if not copyrighted.
Sustainable development goals - Agenda 2030	The contents of this course specifically address the following Goals of the 2030 UN Agenda for a Sustainable Development: Goal 13. Take urgent action to combat climate change and its impacts Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss $lbl_legenda_sviluppo_sostenibile