UNIVERSITÀ DI PAVIA

Anno Accademico 2018/2019

ECOLOGY	
Enrollment year	2017/2018
Academic year	2018/2019
Regulations	DM270
Academic discipline	BIO/07 (ECOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOLOGICAL SCIENCES
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	1st semester (01/10/2018 - 14/01/2019)
ECTS	9
Lesson hours	72 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	OCCHIPINTI ANNA CARMEN (titolare) - 3 ECTS MARCHINI AGNESE - 3 ECTS PAVAN GIANNI - 3 ECTS
Prerequisites	A basic knowledge of Botany, Zoology, Chemistry and Physics is strongly recommended.
Learning outcomes	The aim of the course is to provide students with the basic knowledge necessary in understanding the complexity of interaction among organisms and with abiotic factors, as a fundamental tool in dealing with environmental issues.
Course contents	1) Introduction: definition of Ecology, relationship with other disciplines and role in the development of Science. 2) Adaptation and evolution: natural selection and heritability. 3) The physical environment: climate, aquatic environment; terrestrial environment; adaptations of plants and animals to the environment.

	4) Populations: properties, quantification, growth and intraspecific regulation. 5) Species interactions: interspecific competition, predation, parasitism, mutualism: ecological, evolutionary and quantitative aspects. 6) Community Ecology: factors influencing community structure; community dynamics; species richness and diversity; landscape ecology. 7) Ecosystem ecology: ecosystem energetics; energy flow nutrient cycling. Primary and Secondary production. Trophic chains. Decomposition; biogeochemical cycles. 8) Biogeographical ecology: types of ecosystems. Patterns of biological diversity. Alien species and problems of biodiversity conservation. 9) Human ecology: sustainability, resource use. 10) Global changes.
Teaching methods	Frontal lessons and practical exercises in classroom.
Reccomended or required readings	T. M.Smith & R.L. Smith Elements of Ecology 9th edition (MyLab). Pearson Publisher.
Assessment methods	The final written test consistes of 11 multiple choice questions which has to be sintetically justified. Each corrected answer corresponds to 3 points and has to be sintetically justified. The written text may be followed by an oral discussion, depending on whether the student wishes to improve his/her mark. During the oral discussion, the capability of the student to correlated the different issues will be evaluated.
Further information	Additional studying and working material will be directly provided by the teachers on UNIPV KIRO website (http://kiro2014.unipv.it/idcd/).
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile