

General information	
Academic subject	<b>Landscape ecology</b>
Degree course	Laurea Magistrale in Scienze della Natura e dell'Ambiente
Academic Year	I
European Credit Transfer and Accumulation System (ECTS)	
Language	Italian (slides in English)
Academic calendar (starting and ending date)	
Attendance	Highly recommended

Professor/ Lecturer	
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Department and address	<i>Dipartimento di Scienze Agro Ambientali e Territoriali Campus E.Quagliariello – Villa Sbisà</i>
Virtual headquarters	<i>Microsoft Teams – codice <b>qgn5ntz</b></i>
Tutoring (time and day)	Monday-Friday upon e-mail appointment) (anche su <i>Microsoft Teams – codice <b>078g3xf</b></i> )

Syllabus	
<b>Learning Objectives</b>	The course aims to provide the scientific basis for the study of ecological processes occurring in the landscape through the transmission of theoretical and applied skills related to the main themes and current lines of research in Landscape Ecology.
<b>Course prerequisites</b>	General ecology/Geobotany, English B1, Competence in the use of spreadsheets (Excel) and open source GIS (QGIS)
<b>Contents</b>	Introductory concepts and framework of the discipline. Levels of organization and spatial and temporal scales. Notes on the landscape systems of the world, European and Italian and on man-landscape relations. Conceptual models of representation and principles of analysis of the structure of the landscape. Relations between the structure and functioning of the landscape in relation to ecosystem services and biodiversity. Landscape dynamics. Landscape heterogeneity, habitat fragmentation and functional connectivity.
<b>Books and bibliography</b>	<b>With Kimberly A., 2019. Essentials of Landscape Ecology. Oxford University Press</b>  Other books Forman R.T.T., 1995 The Ecology of Landscapes and Regions. Cambridge University Press Turner, M.G., Gardner, R.H., O'Neill, R.V. 2001, Landscape Ecology in Theory and Practice Springer
<b>Additional materials</b>	Anthology of articles and/or extracts from specialist literature by the teacher



Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<b>Hours</b>			
64,5	34,5	30	80
<b>ECTS</b>			
150	34,5	30,5	85
Teaching strategy			
		Class lectures using PowerPoint and other multimedia systems, discussions on the topics covered and on the basis of individual or group reading of scientific articles, also in English from leading journals in the field. Tutorials exercises to get acquaintance with the main software for landscape analysis (open source software for calculating Landscape metrics, for data analysis, for eco-country modelling), field excursions, also interdisciplinary. Students will be encouraged to work in groups to discuss and make observations together in order to develop critical and self-assessment skills on topics that are also interdisciplinary.	
Expected learning outcomes			
<b>Knowledge and understanding on:</b>		The student should understand the foundations and theoretical assumptions of Landscape ecology and their usefulness for nature research.	
<b>Applying knowledge and understanding on:</b>		The student must acquire the ability to apply the knowledge attained to the analysis of landscape structures and functions for the conservation of environments with a higher degree of naturalness and the recovery of degraded ones with a view to sustainable management.	
<b>Soft skills</b>		<p><i>Making informed judgments and choices</i></p> <p>The student should understand the scope and limitations of the main methods of quantitative analysis of the structure and functionality of the landscape and its components.</p> <p><i>Communicating knowledge and understanding</i></p> <p>The student will have to acquire the specific vocabulary and terminology of the discipline also through the reading of scientific articles also in English.</p> <p><i>Capacities to continue learning</i></p> <p>The student will have to acquire the ability to deepen with a critical spirit the evolution of the discipline, through the consultation of texts and scientific articles also in English, and the analysis of case studies</p>	
Assessment and feedback			
Methods of assessment		The examination of the "Landscape Ecology" module will be integrated with that of the "Environmental Legislation" module. In addition to the assessment of the acquisition of knowledge, the ability to reason and make connections with other disciplines of the Degree Course in relation to the trans-disciplinary nature of Landscape ecology will be evaluated. The details of the other disciplines are not required, but the ability to capture what of the other disciplines allows us to understand the functioning of ecosystem systems.	



Evaluation criteria	<p><i>Knowledge and understanding</i> The student should demonstrate knowledge of the fundamental concepts of Landscape ecology and an understanding of the links between landscape structure, function and change in relation to issues in the fields of Nature conservation and Environmental remediation.</p> <p><i>Applying knowledge and understanding</i> The student should demonstrate that he/she has learned the operation of the main methods of quantitative analysis of landscape structure and function.</p> <p><i>Autonomy of judgment</i> The student should be able to analyse problems related to anthropogenic activities, impact and management, on the structure and functionality of the landscape in the light of the skills acquired.</p> <p><i>Communicating knowledge and understanding</i> The student should be able to express him/herself using the vocabulary of the discipline and to discuss in an analytical way.</p> <p><i>Capacities to continue learning</i> The student should be able to acquire autonomously further knowledge starting from the base of the course contents also in an interdisciplinary way. If demonstrated, the ability to autonomously integrate this knowledge will positively contribute to the final assessment.</p>
Criteria for assessment and attribution of the final mark	The following will be taken into account in the final assessment: clarity of presentation, language, reasoning skills, ability to synthesise and to link with the content of different disciplines. Knowledge of the concepts alone will not be assessed beyond an average level (23/30).
<b>Additional information</b>	