

## Syllabus

### Course description

<b>Course title</b>	<b>Basics of Landscape Ecology</b>
<b>Course code</b>	47050A
<b>Scientific sector</b>	BIO/03
<b>Degree</b>	Environmental Management of Mountain Areas
<b>Semester</b>	I
<b>Year</b>	I
<b>Academic year</b>	2023-24
<b>Credits</b>	3
<b>Modular</b>	Yes

<b>Total lecturing hours</b>	18
<b>Total lab hours</b>	
<b>Total exercise hours</b>	12
<b>Attendance</b>	requested
<b>Prerequisites</b>	none
<b>Course page</b>	<a href="https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/master-environmental-management-mountain-areas/course-offering/">https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/master-environmental-management-mountain-areas/course-offering/</a>

<b>Specific educational objectives</b>	The course provides basic and applied aspects of interdisciplinary Landscape Ecology with regard to ecology, biology, geography as well as aspects of the social sciences. The course is obligatory within the master program EMMA. Additionally to the basic and applied aspects of Landscape Ecology, the course provides professional skills for environmental management, in particular with the seminar part.
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<b>Lecturer</b>	Prof. Dr. Stefan Zerbe
<b>Scientific sector of the lecturer</b>	BIO/03
<b>Teaching language</b>	English
<b>Office hours</b>	Upon request
<b>Teaching assistant</b>	Dr. Uta Fritsch
<b>List of topics covered</b>	<p>The course will cover the following topics:</p> <ol style="list-style-type: none"> <li>1. Basic terms and concepts in ecology</li> <li>2. Plant species: systematics and taxonomy</li> <li>3. Introduction to the discipline and history of Landscape Ecology</li> <li>4. Landscape history in Central Europe</li> <li>5. Multifunctional and traditional landscapes</li> <li>6. Patterns and processes in landscapes</li> <li>7. Methodologies in Landscape Ecology</li> <li>8. Ecosystems and land-use types in mountain areas</li> <li>9. Vegetation and its differentiation in landscapes</li> </ol>

	<p>10. Ecosystem and landscape services  11. Urban landscapes  12. Interdisciplinary aspects in Landscape Ecology</p>
<p><b>Teaching format</b></p>	<p>In the lecture part, the topics are presented by the professor. On the excursions, the professor and local guides will be active. Generally, Power Point presentations will be available in the course reserve collection database of the Faculty. The professor will eventually provide additional material.</p>
<p><b>Learning outcomes</b></p>	<p><b>Knowledge and understanding</b> of basic and applied aspects and methodologies in Landscape Ecology; knowledge and understanding of landscape patterns and processes as well as human impact on mountain ecosystems and landscapes</p> <p><b>Applying knowledge and understanding</b> to landscape and ecosystem management, solving environmental problems, or within research projects</p> <p><b>Making judgements</b> on anthropogenic landscape changes, human impact, management options, and sustainable landscape development</p> <p><b>Communication skills</b> to present basic and applied aspects of landscape ecology and management to stakeholders, scientists, and the public clearly and unambiguously</p> <p><b>Learning skills</b> allow the students to continue their studies in a manner that may be largely self-directed or autonomous within practical projects or a PhD program</p>
<p><b>Assessment</b></p>	<p>Written exam</p>
<p><b>Assessment language</b></p>	<p>English</p>
<p><b>Evaluation criteria and criteria for awarding marks</b></p>	<ul style="list-style-type: none"> <li>• Relevant for written exam assessment: clarity of answers, ability to summarize, evaluate, and establish relationships between topics</li> </ul>
<p><b>Required readings</b></p>	<ul style="list-style-type: none"> <li>• Farina, A. (2007). Principles and Methods in Landscape Ecology: Towards a Science of the Landscape. 2. ed., Springer, Dordrecht, pp1-414.</li> <li>• Turner, M.G., Gardner, R.H. (2015). Landscape Ecology in Theory and Practice. Pattern and Process. Springer, 2nd ed.</li> <li>• Leuschner, C. (2018). Vegetation of Central Europe. 2 Vols. Springer</li> <li>• Zerbe, S. (2022). Restoration of Multifunctional Cultural Landscapes. Merging Tradition and Innovation for a Sustainable Future. Landscape Ser. 30. Springer</li> </ul>

**Supplementary readings**

Papers provided during the lecture