

## Syllabus

### Course description

<b>Course title</b>	<b>Landscape Ecology</b>
<b>Course code</b>	47000
<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>	2019-20
<b>Credits</b>	6
<b>Modular</b>	NO

<b>Total lecturing hours</b>	36
<b>Total lab hours</b>	
<b>Total exercise hours</b>	24
<b>Attendance</b>	requested
<b>Prerequisites</b>	none
<b>Course page</b>	<a href="https://www.unibz.it/en/sciencetechnology/progs/master/environmental_management/default.html">https://www.unibz.it/en/sciencetechnology/progs/master/environmental_management/default.html</a>

<b>Specific educational objectives</b>	<p>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 lab and excursion part.</p>
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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>	18
<b>Teaching assistant (if any)</b>	-
<b>Office hours</b>	-
<b>List of topics covered</b>	<p>The course will cover the following topics:</p> <ol style="list-style-type: none"> <li>1. Introduction to Landscape Ecology</li> <li>2. Landscape History in Central Europe</li> <li>3. Patterns and processes in landscapes</li> <li>4. Methodologies in Landscape Ecology</li> <li>5. Ecosystems and land-use types in mountain areas</li> <li>6. Vegetation in landscapes</li> <li>7. Ecosystem services</li> <li>8. Urban landscapes</li> <li>9. Interdisciplinary aspects in Landscape Ecology</li> <li>10. Applied Landscape Ecology: Nature conservation,</li> </ol>

	<p>biological invasions, etc.</p> <p>11. Landscape dynamics and climate change in the Alps</p>
<b>Teaching format</b>	<p>In the lecture part, the topics are presented by the professors. The seminar part is dedicated to the students' involvement with short presentations. On the excursion, 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 Professors will eventually provide additional material.</p>

<b>Learning outcomes</b>	<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>
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<b>Assessment</b>	Final written exam (70 %), student presentation within seminar (30 %).
<b>Assessment language</b>	English
<b>Evaluation criteria and criteria for awarding marks</b>	<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> <li>• Relevant for assessment of student presentations (seminar): ability to extract the key messages, creativity, skills in critical thinking, ability to summarize in own words</li> </ul>

<b>Required readings</b>	<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>• Hong, S.-K., Nakagoshi, N., FU B., Morimoto, Y. (eds), 2007. Landscape Ecological Applications in Man-</li> </ul>
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	<p>Influenced Areas: Linking Man and Nature Systems. Springer, Dordrecht.</p> <ul style="list-style-type: none"> <li>• Steinhardt, U., Blumenstein, O., Barsch, H., 2012. Lehrbuch der Landschaftsökologie. Springer Spektrum, Heidelberg, 2. ed., pp295</li> <li>• Leuschner, C. (2018): Vegetation of Central Europe. 2 Vols.</li> </ul>
<b>Supplementary readings</b>	Papers provided during the lecture and seminar