

Syllabus

Course description

Course title	Forest Entomology and Forest Protection
Course code	43077
Scientific sector	AGR/11
Degree	Agricultural and Agro-environmental Sciences
Semester	Summer School
Year	II, III
Academic year	2018/19
Credits	3
Modular	No

Total lecturing hours	20
Total exercise hours	16
Attendance	Recommended
Prerequisites	
Course page	

Specific educational objectives	<p>The purpose of this summer school is to provide undergraduate students with an essential knowledge in forest entomology and forest protection. Students will learn to understand the biology and ecology of pests and diseases of trees in the alpine region and learn principles for their management and control.</p> <p>The summer school is composed by theoretical background with practical examples, laboratory tutorials, and excursions. The lectures will focus on the theoretical introduction to insects which can cause damage to forests and forest products. This includes basic knowledge on their biology and ecology, their natural enemies, their life cycles, population dynamics and attack symptoms. Additionally, the course will cover aspects of the most important forest pathogens and their management.</p> <p>The theoretical lectures are complemented by laboratory sessions where students will learn to diagnose and identify the most important forest pests and their symptoms. Students will also conduct some laboratory experiments and develop their own research project.</p>
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Learning outcomes	<p>Knowledge and understanding: After successful completion of the course students know the most important forest pests, their ecology and their natural enemies and the most important forest diseases.</p>
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	<p>Applying knowledge and understanding: Students will be able to identify the most important forest insects and pathogens and their symptoms.</p> <p>Making judgments: By identifying the most important forest insects and pathogens and by performing simple diagnosis students will be able to estimate their impact and discuss potential control strategies.</p> <p>Communication skills: Students will improve their communication skills during the discussions in class and by presenting the outcome of their laboratory experiments.</p> <p>Learning skills: Students will be able to search and review scientific literature and learn how to make use of the knowledge.</p>
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Assessment	The final assessment will be composed by a presentation (25%) and an oral exam (75%).
Assessment language	English
Evaluation criteria and criteria for awarding marks	<p>Seminar: Presentation skills and scientific content. Oral exam: Knowledge on the most important forest pest and pathogens, ability to diagnose symptoms and establish relationships between different aspects.</p> <p>To pass the exam both components have to be assessed positively.</p>

Required readings	Presentation handouts and scientific papers will be provided by the lecturer.
Supplementary readings	<p>Ciesla WA 2011 Forest Entomology: A global perspective, Wiley, DOI:10.1002/9781444397895</p> <p>Paine, Lieutier 2016 Insects and Diseases of Mediterranean Forest Systems, Springer; DOI 10.1007/978-3-319-24744-1</p> <p>Ebner, S., Scherer, A., 2001: Die wichtigsten Forstschädlinge. Insekten, Pilze, Kleinsäuger. Praxisbuch. Leopold Stocker Verlag. ISBN 3-7020-0914-0. 197 S.</p> <p>Butin, H., Nienhaus, F., Böhmer, B., 2003: Farbatlas Gehölzkrankheiten. 5. Auflage. Eugen Ulmer Verlag. ISBN 978-3-8186-0073-0.</p>

Hartmann C., Nienhaus F., Butin, H. Farbatlas
Waldschäden. 4. Auflage, Eugen Ulmer Verlag. ISBN 978-
3-8001-5833-1