Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Syllabus
Course description

Course title	Management of forest and agriculture resources in mountain areas
Course code	47051
Scientific sector	AGR/03 – AGR/05
Degree	Environmental Management of Mountain Areas
Semester	I
Year	*I*
Academic year	2024/25
Credits	9
Modular	Yes

Total lecturing hours	54 (36+18)
Total lab hours	
Total exercise hours	36 (24 +12)
Attendance	Not compulsory but recommended. Strongly recommended the attendance to the excursions.
Prerequisites	Students should have a basic knowledge of sustainable forest and agriculture production
Course page	Course Offering - enrolled from 2021 / Free University of Bozen-Bolzano (unibz.it)

Specific educational objectives	The course belongs to the class "characterizing" and specifically to the scientific area disciplinary area of forestry and crop production. It is aimed to provide knowledge and the scientific basis for the understanding of the ecological functioning and management of natural and artificial ecosystems in mountain regions.

Module A	**Management of mountain forests**
Lecturer	Enrico Tomelleri K building, office 4.02 e-mail: enrico.tomelleri@unibz.it
Scientific sector of the lecturer	AGR/05
Teaching language	English
Office hours	By appointment
Teaching assistant *(if any)*	-
List of topics covered	The Module will cover the following topics: • Introduction to mountain forests • Mountain forests and disturbances • Silvicultural systems • Forest types

	• Forests and biogeochemical cycles • Multi-objective Forestry • Fundamentals of Climate Smart Forestry
Teaching format	This is a lecture and field course. Lectures are combined with focus seminars and field excursions, using problem-based learning techniques. Presentations, reading material and links to additional resources will be made available on the Open Learning Environment.

Module B	**Management of agricultural resources**
Lecturer	Dr. Damiano Zanotelli Piazza Università 5, 39100 Bolzano-Bozen, office room K-2.06 e-mail: damiano.zanotelli@unibz.it phone: 0471-017121
Scientific sector of the lecturer	AGR/03 (Damiano Zanotelli)
Teaching language	English
Office hours	By appointment
Teaching assistant	Dott. Francesco Gubert
Office hours	-
List of topics covered	The Module will cover the following topics: • Introduction and peculiarities of mountain agriculture (facts and figures, challenges, and opportunities) • Production protocols, sustainability, principles of agroecology • Sustainable management of soil and water in mountain agriculture • Adaptation and management of the main climatic variables in mountain agricultural systems • Analysis of specific case studies of mountain agriculture through lectures, exercises and the assignments.
Teaching format	Lectures, field excursions
Required readings	The oral exam will be based on the content discussed in class and reported in the hand-outs of each lecture, which will be loaded on the dedicated Teams platform before each lecture. The group assignment is aimed at analyzing and presenting a selected case study of mountain agriculture starting from scientific papers provided on the dedicated Teams

Supplementary readings	The reference book regarding management of agricultural resources is: • Principles of Agronomy for Sustainable Agriculture. Villalobos F.J., Fereres E., 2016. Springer ISBN 978-3-319-46115-1 More references on selected topics are provided during the lectures in the form of articles from Scientific Journals. For the assignment, description of specific case studies can be found in: • The book: "The Future of Mountain Agriculture". Mann, Stefan 2013, Springer Geography. ISBN 978-3-642-33584-6 • List of selected articles from the scientific literature provided in the dedicated Teams of the course

Assessment	Management of Mountain Forests: the assessment will be carried out either by i) written student assignments or ii) oral exam.
Assessment language	English
Evaluation criteria and criteria for awarding marks	The final grade for the entire course will be calculated as the weighted average of the final grades obtained in the two modules (67% for module A and 33% for module B). Management of Mountain Forests: • The evaluation criteria for the written assignments include soundness of the proposed approach, critical thinking, clarity and originality in the presented solution, mastery of the technical language, quality of presentation. • Relevant for the oral exam assessment are correctness of the answers, mastery of the technical language, ability to produce critical judgment, capability to create connections between the topics of the course. Management of agricultural resources: • The presentation of the assignment counts 30% of the final mark of this module, while the latter 70% while be based on the oral exam. • In the oral examination the correctness of the answers, the mastery of the concepts and the ability to critically evaluate the different management options covered in the course will be assessed.