# Syllabus

## Course title
Sustainable farming systems in mountain areas

## Course code
47044

## Scientific sector
AGR/03 – AGR/19

## Degree
Environmental Management of Mountain Areas

## Semester
II

## Year
I

## Academic year
2019/20

## Credits
9

## Modular
Yes

## Total lecturing hours
59 (24+35)

## Total lab hours

## Total exercise hours
31 (16+15)

## Attendance
Not compulsory, but recommended. Strongly recommended the attendance to the field activities.

## Prerequisites
Students should have a basic knowledge of sustainable agriculture and livestock production

## Course page

## Specific educational objectives
The course delivers detailed information on crop and livestock production systems as well as on wildlife management that provide economic opportunities for the mountain farms. Students will be able to evaluate such production systems and to identify weaknesses and strengths. Furthermore, they will be able to design production systems for a given area and adapt their management in order to improve their ecological and economic sustainability, and integration with the surrounding environment.

## Module 1

### Mountain Agriculture

#### Lecturer
Dr. Damiano Zanotelli
Piazza Università 5, 39100 Bolzano-Bozen,
office room K-3.03
e-mail: damiano.zanotelli@unibz.it
phone: 0471-017121

#### Scientific sector of the lecturer
AGR 03

#### Teaching language
English

#### Office hours
see timetable

#### Teaching assistant (if any)
NN

#### Office hours
-
<table>
<thead>
<tr>
<th>List of topics covered</th>
<th>The Module will cover the following topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Overview of mountain agriculture (fact and figures, challenges and opportunities)</td>
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<tr>
<td></td>
<td>2. Natural resources supporting agricultural production: soil and climate</td>
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<td>3. Agricultural practices suitable to mountain areas</td>
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<td></td>
<td>4. Permanent crops: apple, grape and berries</td>
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<td>5. Vegetable crops</td>
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<td></td>
<td>6. Arable crops</td>
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<td>7. Pastures and grasslands</td>
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</tbody>
</table>

| Teaching format | Lectures, Excursions |

<table>
<thead>
<tr>
<th>Module 2</th>
<th>Livestock management in mountain areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer</td>
<td>Prof. Dr. Dr. Matthias Gauly, Universitätsplatz 5, Room K 1.10, <a href="mailto:matthias.gauly@unibz.it">matthias.gauly@unibz.it</a>, phone: 0471 017115, Webpage: <a href="https://www.unibz.it/en/faculties/sciencetechnology/academic-staff/person/34735-matthias-gauly">https://www.unibz.it/en/faculties/sciencetechnology/academic-staff/person/34735-matthias-gauly</a></td>
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<tr>
<td>Scientific sector of the lecturer</td>
<td>AGR/19</td>
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<tr>
<td>Teaching language</td>
<td>English</td>
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<tr>
<td>Office hours</td>
<td>During semester, upon arrangement by email</td>
</tr>
<tr>
<td>Teaching assistant (if any)</td>
<td>-</td>
</tr>
<tr>
<td>List of topics covered</td>
<td>The Module will cover the following topics:</td>
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<tr>
<td></td>
<td>1. Structures of livestock production in mountain areas</td>
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<td>2. Production and management systems in livestock (cattle, pigs, small ruminants, poultry, horses)</td>
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<td>3. Production and management of non-domesticated species (e.g. deer)</td>
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<td>4. Biology of selected wildlife species</td>
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<td></td>
<td>5. Management of large carnivores (wolf, bear, lynx) and interactions with livestock farming</td>
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<tr>
<td>Teaching format</td>
<td>Lectures and excursions are followed by presentations of the students. Each student gives a presentation on a specific topic related to wildlife management.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning outcomes</th>
<th>Knowledge and understanding of the main characteristics of the agricultural and livestock production systems in mountain areas.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Applying Knowledge and understanding to identify in a given area, the main environmental and economic constraints that affects plant and animal production.</td>
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<tr>
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<td>Making judgments to be able to identify for a given environment and production system, the most suitable management techniques in order to improve its economic</td>
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</tbody>
</table>
and ecological sustainability.

**Communication skills**  
Ability to present and discuss the acquired knowledge using a scientific terminology and sound arguments.

**Learning skills**  
Ability to autonomously extend the knowledge acquired during the course by critically reading of scientific literature.

### Assessment

The two modules of Agricultural Systems in Mountain areas (Mountain Agriculture and Livestock management in mountain areas) will be jointly assessed by oral exams on topics presented and discussed in classes and during the field activities, to be offered starting from the end of the course.

### Assessment language

English

### Evaluation criteria and criteria for awarding marks

The evaluation process takes place in the context of oral exam based on the correctness of the answers, on the language correctness, on the students’ ability to argument their answers, to derive relationships and to create connections between the topics.

In module 2 (Livestock management in mountain areas), the student presentation counts 30% and the oral exam 70% of the grade obtained in this module.

The final grade for the entire course will be calculated as the weighted average (40% for module 1 and 60% for module 2) of the final grades obtained in the two modules.

### Required readings

There is no single textbook that covers the content of the entire course.

Selected chapters of the following textbooks:


Hand-outs from lessons

### Supplementary readings

More references will be mentioned during the lectures.