



Course title	<u>Vineyard management and wine production in mountain areas</u>
Module title	Vineyard management in mountain areas
Course code	44614
Course credits	10 ECTS
Scientific sector	AGR/03
Degree	Viticulture, Enology and Wine Marketing
Semester	I
Year	II
Academic year	2019/2020
Credits	3 ECTS
Modular	Yes
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Credits	3 ECTS
Modular	Yes

Prerequisites	Students should have at least a basic knowledge of arboriculture and general viticulture.
Course page	-
Lecturer	Carlo Andreotti
Teaching language	English
Office hours	Upon arrangement by email
Targeted learning outcomes:	The course will provide students with scientific and technical knowledge on the main aspects related to the management of vineyards located in mountain areas. Students will understand and critically consider the main factors involved in mountain environment and their consequences on grapevine physiology and cultural management. Finally, students will learn how the exploitation of the mountain conditions can lead to an enhancement of the final quality of grapes, while maintaining yield level and overall sustainability.
Content:	<p>Course contents are as follows:</p> <ul style="list-style-type: none"> - The altitude effect on vineyard microclimatic conditions: role of temperature, daily temperature excursion, light intensity and quality, exposition. - The effect of altitude on grape quality. - Cultural management of mountain vineyards: site preparation in steep slope conditions (contour farming, up- down the slope, terracing systems), means against soil erosion, canopy management (grapevine training systems for steep slopes conditions and in relation with vineyard exposition). - Protection against adverse meteorological conditions (late frost, early frost, too high radiation, sunburn damages). - Climate change and mountain viticulture (DOC modification, adaptation to warmer conditions, control of ripening dynamic of grapes, exploitation of new areas at higher altitudes). - Selection of new cultivars potentially suitable for mountain environment.
Teaching format	Power point slides
Exam form:	Oral exam
Literature:	There are no specific textbooks on the course topics. The lecturer will provide students with the pdf of the lectures

	and with selected papers from the international literature on the subject.
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Course title	Vineyard management and wine production in mountain areas
Module title	Vineyard Mechanization in Mountain Areas
Course code	44614
Course credits	10 ECTS
Scientific sector	AGR/09
Degree	Viticulture, Enology and Wine Marketing
Semester	I
Year	II
Academic year	2019/2020
Credits	4 ECTS
Modular	No

Total lecturing hours	Frontal/regular lectures: 24 h;
Total lab and exercise hours	Lectures: 24 hours; Student's personal study time in the module: 60 h
Total exercise hours	Exercises: 12 hours;
Attendance	Not compulsory
Prerequisites	Students should have at least a basic knowledge of arboriculture and general viticulture.
Course page	-
Lecturer	Liberatori Sandro
Teaching language	English

Office hours	Upon arrangement by email
Targeted learning outcomes:	Provide students with basic knowledge on mechanization in mountain areas, specific knowledge on safety requirements and performances of machines, homologations and use according to environment protection and high quality production, evaluation of innovation and transfer of technologies. Being able to apply standard requirements in the design and evaluation of machines, provide for a proper use of machines, to measure the level of innovation and provide for technology transfer.
Content:	International standards and their application in the field of performances, safety and environment protection related to machines, the use of machines for quality production, measurement of the level of innovation of machines, technology transfer.
Teaching format	Regular lectures, web platform, team working and group project, visit of manufacturing plants and farms.
Exam form:	1/3 oral examination, 1/3 group work, 1/3 written examination; 25% skill to properly set a problem, 25% skill to find a solution, 25% level of knowledge of the topics, 25% ability for presentations
Literature:	Course material by the lecturer

Course title	Vineyard management and wine production in mountain areas
Course title	Wine production processes and plants
Course code	44614
Scientific sector	AGR/15
Degree	Viticulture, Enology and Wine Marketing
Semester	I
Year	II
Academic year	2019/2020
Credits	3 ECTS
Modular	No

Total lecturing hours	Frontal/regular lectures: 16 h;
Total lab and exercise hours	Lectures: 16 hours;
Total exercise hours	Visits of wineries, specialized companies and/or laboratory practice 12 h;
Attendance	Not compulsory
Prerequisites	-
Course page	-
Lecturer	Boselli Emanuele
Teaching language	English
Office hours	Upon arrangement by email
Targeted learning outcomes:	The students can manage adequately the different wine production processes and plants with emphasis on <i>extreme wines</i>
Content:	<p>Fundamentals of wine production processes and related plants: red-wine like, white-wine like, rosè wines, carbonic maceration, natural sparkling wines, special wines such as raisin wines and fortified wines. Applications of winemaking processes to areas where altitude leads to difficult climatic conditions, and steep slopes (even at lower altitude) limit the possibilities for using the land and lead to an increase in the cost of working. Key features of <i>extreme wines</i> produced with white (Gewürztraminer, Chardonnay, Pinot blanc, Pinot gris, Sauvignon, Müller-Thurgau, Sylvaner, Kerner, Riesling, Veltliner, Moscato) and red (Lagrein, Pinot Noir, Merlot, Cabernet Sauvignon, Cabernet Franc and Moscato rosa) varieties.</p> <p>Production processes of other <i>extreme wines</i> of the world (Beaujolais, Port wine, Cinque Terre, Eiswein/ice wine, Pecorino and <i>spumante</i> wines).</p> <p>Techniques to preserve the aroma of extreme wines and to prevent the defects. Practical laboratory experiments and technical visits to specialized external companies and wineries.</p>
Teaching format	Power point and blackboard
Exam form:	Team project work: power point presentation done in groups on a topic related to the course combined with an individual interview

Literature:	Key notes provided by the lecturer in the E – learning platform of unibz Ribéreau-Gayon P., Dubourdieu D., Donèche B., Lonvaud A. – Handbook of Enology – Vol. I and II – free pdf version available in internet OIV technical standards and documents http://www.oiv.int/en/technical-standards-and-documents Cervim website: http://www.cervim.org/
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Module title	Wine production processes and plants (3 ECTS)
Course code	44614C
Scientific sector	AGR/15-Food Science and Technology
Degree	Master in Viticulture, Enology and Wine Marketing (VEM)
Semester	I
Year	I
Academic year	2019/20
Credits	3
Modular	Yes

Total lecturing hours	16
Total lab hours	12
Total exercise hours	-
Attendance	strongly recommended
Prerequisites	Basic knowledge of food technology and/or chemistry
Course page	https://www.unibz.it/en/faculties/sciencetechnology/master-in-viticulture-enology-and-wine-marketing/

Specific educational objectives	<ul style="list-style-type: none"> • type of course: <i>area affine integrativa</i> • scientific area: <i>Vineyard management and wine production in mountain areas</i> • the course is part of the specialization <i>Sustainable Management of Mountain Viticulture within the Alpine Landscape Valorization</i> within the study programme of the VEM Master
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	<p>the course gives a general overview of scientific contents and is designed for acquiring professional skills and knowledge</p> <p>educational objectives the students can manage adequately the different wine production processes and plants with emphasis on extreme and mountain wines</p>
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Module 1	Wine production processes and plants (3 ECTS)
Lecturer	Emanuele Boselli, BZ L5.00, emanuele.boselli@unibz.it , +390471017217, https://www.unibz.it/en/faculties/sciencetechnology/academic-staff/person/37607-emanuele-boselli
Scientific sector of the lecturer	AGR/15-Food Science and Technology
Teaching language	English
Office hours	Before and after the lectures and upon appointment
Teaching assistant (if any)	Dr. Vakare Merkyte
Office hours	Before and after the lectures and by appointment
List of topics covered	Fundamentals of wine production processes and related plants: red-wine like, white-wine like, rosè wines, carbonic maceration, natural sparkling wines, special wines such as raisin wines and fortified wines. Applications of winemaking processes to areas where altitude leads to difficult climatic conditions, and steep slopes (even at lower altitude) limit the possibilities for using the land and lead to an increase in the cost of working. Key features of extreme wines produced with white (Gewürztraminer, Chardonnay, Pinot blanc, Pinot gris, Sauvignon, Müller-Thurgau, Sylvaner, Kerner, Riesling, Veltliner, Moscato) and red (Lagrein, Pinot Noir, Merlot, Cabernet Sauvignon, Cabernet Franc and Moscato rosa) varieties.

	Techniques to preserve the aroma of extreme wines and to prevent the defects. Practical laboratory experiments and technical visits to specialized external companies.
Teaching format	Frontal lectures (Power point and blackboard), labs, projects, visit to companies

Learning outcomes	<p>Learning outcomes according to the Dublin Descriptors:</p> <p>Knowledge and understanding</p> <p>(a) adequate knowledge and understanding about the development of projects related to the processing plants and production of extreme wines, (b) provide an adequate knowledge of the approaches needed to obtain wines <i>wines in mountain areas</i></p> <p>Applying knowledge and understanding</p> <p>(a) developing the capability of integration of information, both in horizontal way (technological, chemical, biological, and regulatory aspects involved in the winemaking process) and in vertical way (reasonable sequence of processes along the production chain of extreme and mountain wines); (b) capability of carrying out strategies for the introduction of innovative processes in the production of extreme and mountain wines; (c) capability of evaluating the potentiality of innovative technologies; (d) capability of applying the right chemical/instrumental techniques to assess the quality of extreme/mountain wines.</p> <p>Making judgments</p> <p>Capability of identifying the information needed to introduce sustainable technological innovations and to ensure and evaluate the quality of extreme and mountain wines.</p>
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	<p>Communication skills</p> <p>capability of clearly and exhaustively communicate notions, ideas, problems and technical solutions to interlocutors, either professional or not, representative of the various and specific competencies in the wine supply chain (agronomists, engineers, biologists, chemists, nutritionists, administrators) with specific emphasis on extreme and mountain wines.</p> <p>Learning skills</p> <p>To get the learning skills that are necessary to make decisions regarding winery plants in mountain and extreme areas and to obtain wines in those areas with sustainable technologies and with a good level of autonomy.</p>
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Assessment	Team project work: power point presentation of a project work done in groups on a topic related to the course combined with an individual interview
Assessment language	English
Evaluation criteria and criteria for awarding marks	<p>Successful completion of the examination will lead to grades ranging from 18 to 30 with honors (50% project work and 50% individual interview).</p> <ul style="list-style-type: none"> • relevant for individual interview: clarity of answers, mastery of language (also with respect to teaching language), ability to summarize, evaluate, and establish relationships between topics; • relevant for project work: ability to work in a team, creativity, skills in critical thinking, ability to summarize in own words

Required readings	Key notes provided by the lecturer in the E-learning platform of UNIBZ;
Supplementary readings	<p>Ribéreau-Gayon P., Dubourdieu D., Donèche B., Lonvaud A. – Handbook of Enology – Vol. I and II – free pdf version available in the internet</p> <p>OIV technical standards and documents http://www.oiv.int/en/technical-standards-and-documents</p>

Cervim website: <http://www.cervim.org/>