

## Syllabus

### Course description

<b>Course title</b>	Viticulture and Oenology
<b>Course code</b>	
<b>Scientific sector</b>	
<b>Degree</b>	Bachelor in Agricultural, Food and Mountain environmental Sciences
<b>Semester</b>	2 <sup>nd</sup>
<b>Year</b>	III
<b>Academic year</b>	2021/22
<b>Credits</b>	6
<b>Modular</b>	Yes

<b>Total lecturing hours</b>	36
<b>Total lab hours</b>	
<b>Total exercise hours</b>	24
<b>Attendance</b>	
<b>Prerequisites</b>	basic knowledge of chemistry for the oenology module
<b>Course page</b>	

<b>Specific educational objectives</b>	<p>This is an elective course including two teaching modules. The module of viticulture aims to allow students to get a good knowledge about general viticulture and to allow them to develop professional skills in the area of vine growing and vineyard management.</p> <p>The module of oenology is designed to teach to the students the comprehension of basic winemaking practices as a source of differences between different wine types as well as wine classifications, basic wine tasting, interpreting a wine label</p> <p>Moreover the module aims to develop student's scientific and technical knowledge that is needed for a critical approach to problems related to the wine industry</p>
--	--

<b>Module 1</b>	Viticulture
<b>Lecturer</b>	Prof. Carlo Andreotti, office K4.03, email: <a href="mailto:carlo.andreotti@unibz.it">carlo.andreotti@unibz.it</a>
<b>Scientific sector of the lecturer</b>	AGR/03
<b>Teaching language</b>	English
<b>Office hours</b>	Monday to Friday upon appointment
<b>Teaching assistant (if any )</b>	To be appointed
<b>Office hours</b>	Monday to Friday upon appointment

<b>List of topics covered</b>	<ul style="list-style-type: none"> <li>• Botanic and systematic of grapevine</li> <li>• Anatomy, morphology and function of grapevine organs</li> <li>• Grapevine growth and fruit production</li> <li>• Vine propagation and planting</li> <li>• Training and pruning of grapevine</li> <li>• Mineral and water nutrition of grapevine</li> <li>• Harvest and grape quality</li> </ul>
<b>Teaching format</b>	Frontal lectures and exercises

<b>Module 2</b>	Oenology
<b>Lecturer</b>	Prof. Emanuele Boselli, Office: NOITechPark Alto Adige/Südtirol - Room A2.3.03b, Via A. Volta, 13B - Bolzano, e-mail: <a href="mailto:emanuele.boselli@unibz.it">emanuele.boselli@unibz.it</a> , tel. 0471017217, <a href="http://Emanuele%20Boselli%20-%20Libera%20Universit%C3%A0%20di%20Bolzano%20(unibz.it)">Emanuele Boselli / Libera Università di Bolzano (unibz.it)</a>
<b>Scientific sector of the lecturer</b>	AGR/15 – Food Science and Technology
<b>Teaching language</b>	English
<b>Office hours</b>	Monday to Friday upon appointment
<b>Teaching assistant (if any)</b>	to be appointed
<b>Office hours</b>	Monday to Friday upon appointment
<b>List of topics covered</b>	<ul style="list-style-type: none"> <li>• Harvest decisions, grape ripening, sampling</li> <li>• Crushing and destemming, must handling, must additions and pressing;</li> <li>• Fermentation biochemistry, yeast selection and inoculation, stuck fermentations;</li> <li>• Malolactic fermentation (MLF), wine style and MLF, controlling MLF;</li> <li>• Barrel aging, clarification, fining, settling, cold stabilization, filtering, blending, bottling, closure systems</li> <li>• Introduction to sensory evaluation of wines;</li> <li>• White and red winemaking, protection from oxidation, use of enzymes, maceration and stabilization techniques</li> <li>• Fundamentals of sparkling wine production</li> <li>• Use of the byproducts of the winery</li> </ul>
<b>Teaching format</b>	Frontal lectures, exercises, labs, projects, etc.

<b>Learning outcomes</b>	<p><b>Knowledge and understanding</b></p> <ul style="list-style-type: none"> <li>• Knowledge of the most important scientific and technical aspects related to viticulture</li> <li>• Overview of the winemaking process for both red and white wines, sparkling wines and other products of the winery; wine tasting</li> </ul> <p><b>Applying knowledge and understanding</b></p> <ul style="list-style-type: none"> <li>• Be able to identify the most relevant limiting factors and constrains (e.g. deriving from the environment or related to the cultivation technique) for a sustainable vine cultivation</li> </ul>
--------------------------	---

	<ul style="list-style-type: none"> <li>• Be able to understand basic winemaking practices as source of differences between different wine types</li> </ul> <p><b>Making judgments</b></p> <ul style="list-style-type: none"> <li>• Through the critical evaluation of the environmental parameters</li> <li>• Through the critical evaluation of the several available agronomic approaches</li> <li>• Through the evaluation of the wine quality using a sensory and a chemical-analytical approach</li> </ul> <p><b>Communication skills</b></p> <ul style="list-style-type: none"> <li>• Ability to communicate the acquired knowledge by using a correct scientific and technical language commonly used in the viticultural and enological sectors</li> </ul> <p><b>Learning skills</b></p> <ul style="list-style-type: none"> <li>• Ability to autonomously extend the knowledge acquired during the study course by reading and understanding scientific and technical documentation prepared by professionals in the viticultural and enological fields</li> </ul>
--	--

<b>Assessment</b>	Oral exam in presence or remote (via videocall platform)
<b>Assessment language</b>	English
<b>Evaluation criteria and criteria for awarding marks</b>	<ul style="list-style-type: none"> <li>• clarity of answers, mastery of language (also with respect to teaching language), ability to summarize, evaluate, and establish relationships between topics in viticulture and enology;</li> <li>• ability to show critical thinking and solving problems attitudes in viticulture and enology</li> </ul>

<b>Required readings</b>	- lesson notes and didactic materials (papers) loaded on the reserve collection/OLE/Teams
<b>Supplementary readings</b>	<p>-“Manuale di viticoltura”. A cura di Paliotti, Poni Silvestroni. Edagricole, 2018</p> <p>-“Biology of Grapevine”. Mullins M.G. , A. Bouquet &amp; L.E. Williams, Cambridge University Press, 1992</p> <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  <a href="http://www.oiv.int/en/technical-standards-and-documents">http://www.oiv.int/en/technical-standards-and-documents</a></p> <p>- Introduction to Wine laboratory practices and procedures, JL Jacobson, Springer (<a href="#">1.pdf (springer.com)</a>)</p>