



Master in Life Sciences

A cooperation between
BFH, FHNW, HES-SO, ZFH

Module	Grapevine Environment - Sustainable Viticulture
Code	MLS_S12
Degree Program	Master of Science in Life Sciences (MSLS)
Cluster	Food
Specialization	Viticulture and Enology
ECTS Credits	4
Workload	120 h: Contact & Field work 75 lessons = 56 h; Self-study 64 h
Module Coordinator	<p>Name Dr. Thierry Heger</p> <p>Phone +41 22 363 40 73</p> <p>Email thierry.heger@changins.ch</p> <p>Address CHANGINS, Viticulture and Enology, Route de Duillier 50, Case postale 1148, CH-1260 Nyon 1</p>
Lecturers	<ul style="list-style-type: none"> • Thierry Heger, Soil Science and Environment Group, CHANGINS, Viticulture and Enology • Matteo Mota, Soil Science and Environment Group, CHANGINS, Viticulture and Enology • Dorothea Noll, Soil Science and Environment Group, CHANGINS, Viticulture and Enology <p>+ Guest lecturers from: HES-SO Hepia, Agroscope, University of Strasbourg/CNRS etc.</p>
Entry Requirements	Equivalent of a Bachelor of Science in Viticulture, Enology, Soil Sciences, or Agronomy
Learning Outcomes and Competences	<p>After completing the module students will be able to:</p> <ul style="list-style-type: none"> • Understand and characterize the different living components of a vineyard • Understand the ecosystem services provided by these different components and develop management practices preserving and/or improving such services • Assess environmental risks linked to the grapevine production and develop strategies to minimize them • Design and carry out a case study comparing different vine production systems • Interpret, evaluate and communicate the results obtained

Module Content	<ul style="list-style-type: none"> • Description of the components of the living vineyard (flora, fauna, mesofauna and microorganisms), their roles and their interrelations • Assessment of the impact of a vineyard management on the environment (e.g. erosion, compaction, pesticides and how to avoid them) • Ecotoxicology and bioindication in vineyard and other agricultural ecosystems • Case study: comparison of different management systems on soil quality and health • How to critically evaluate and appropriately communicate scientific content
Teaching / Learning Methods	<ul style="list-style-type: none"> • Lectures • Individual and group exercises • Laboratory experiments • Field trips • Literature study • Writing scientific reports • Active participation in the module is requested
Assessment of Learning Outcome	<p>Practical work, reports and presentations : 40 % of the final mark</p> <p>Final examination (written): 60 % of the final mark</p>
Bibliography	<ul style="list-style-type: none"> • Adams WM (2006) The Future of Sustainability: Re-Thinking Environment and Development in the Twenty-First Century, The World Conservation Union. 18 p. • Boller EF, Avilla J, Jörg E, et al. (2004) Integrated Production: Principles and Technical Guidelines, IOBC WPRS Bull. 50 p. • Ohmart CP (2011) View from the Vineyard: A Practical Guide to Sustainable Winegrape Growing, San Francisco. 240 p. • Retallack M (2012) Enhancing biodiversity in the vineyard – Workshop notes Government of South Australia.66 p. • Trivellone V, Schoenenberger N, Bellosi B, et al. (2014) Indicators for taxonomic and functional aspects of biodiversity in the vineyard agroecosystem of Southern Switzerland. Biological Conservation, 103–109.
Language	English
Comments	Lectures will be completed with the study of scientific articles required for completion of the module
Last Update	16.06.2020 / TH