ModuleTitle	**Integrated Natural Resources Management**
Module Code	MSLS_AF-03
Degree Programme	Master of Science in Life Sciences (MSLS)
ECTS Credits	5
Workload	**100% Online**: 150 h: Online - Contact 60 h; Group Exercise 25 h; Self-study 65 h
Module Coordinator	**Name** Dr. Claude Garcia **Phone** +41 31 848 55 72 **Mobile** +41 76 244 04 73 (WhatsApp) **Email** claude.garcia@bfh.ch **Address** Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences, Laenggasse 85, 3052 Zollikofen
Lecturers	▪ Dr. Claude Garcia ▪ Dr. Patrick Waeber ▪ Dr. Mariana Melnykovych ▪ Dr. Sébastien-Pierre Boillat
Entry Requirements	Fluent English (B2 equivalent).
Learning Outcomes and Competencies	After completing the module, students will be able to: ▪ understand the major challenges and underpinning concepts of managing landscape in a globally changing environment ; ▪ recognise the key issues and problems of natural resources management (inc. sustainable land and forest management, land use, land use change and forests, and REDD+) from a disciplinary perspective and bring them into a wider interdisciplinary context; ▪ develop and design scenarios and strategy games to elaborate sound recommendations for problem-solving and/or decision-making in natural resources management, using appropriate methods and tools; ▪ collaborate in a multi-disciplinary team and participate in the elaboration of recommendations for decision-making from an interdisciplinary perspective (integrated assessment, “synthesis”) and reflect on the disciplinary results from such broader perspective. ▪ develop a mutual understanding across disciplines toward solving complex problems in natural resources and environmental management.
Module Content	Lecturers give an introduction to the selected topic and make contributions from different disciplines to approach key issues related to that subject, including: • basic concept of and approaches to integrated resources and environmental management in the various anthromes of the world; • introduction to design principles for complex-system participatory modelling and multi-agent modelling;

	• objectives of sustainable use and conservation of natural resources as well as fair and equitable sharing of benefits from ecosystem goods and services; • integration of economic, ecological, societal, institutional, managerial and technical perspectives on a selected current topic of natural resources and environmental management in agricultural, forestry and agro-food systems. Students elaborate an assessment of policy and management recommendations from (i) different disciplinary perspectives and (ii) an integrated (cross-disciplinary) perspective in the context of sustainable development.
Teaching	The module takes place during two weeks (calendar week 36 and 37).
Teaching and Learning Methods	A combination of lectures, individual work and team-work with disciplinary/topical subgroups, and interdisciplinary group-work for synthesis report and final seminar. Students will develop a strategy game based on the topic they have selected.
Assessment of Learning Outcomes	1) A game designed and presented, and an integrated assessment/synthesis (team-work) in the form of a report (60%) 2) An oral exam (40%)
Bibliography	An updated list of selected references and readings will be made available at the start of the course; students are expected to complement these sources with their individual research of literature and other information. Essential reading: ▪ Carpenter SR et. al., (2009). Science for managing ecosystem services: beyond the millennium ecosystem assessment. (PNAS), 106 (5), 1305–1312. ▪ Holling, C. S., & Meffe, G. K. (1996). Command and control and the pathology of natural resource management. Conservation biology, 10(2), 328-337. ▪ Sayer, Jeffrey, et al. "Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses." PNAS 110.21 (2013): 8349-8356. ▪ Garcia, Claude A., et al. "Strategy games to improve environmental policymaking." Nature Sustainability (2022): 1-8.
Language	English
Comments	The module will be organised during two full weeks at the beginning of September. The exam will be organised later in September. All sessions are compulsory for students.
Last Update	30.04.2024