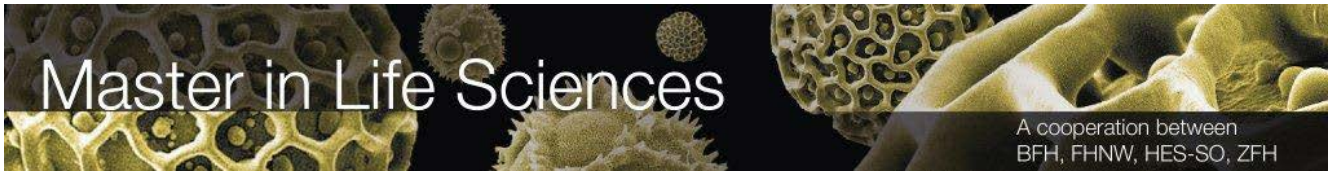

Module	**Applied Research in Natural and Social Sciences**
Code	MSLS_AF-01
Degree Program	Master of Science in Life Sciences (MSLS)
ECTS Credits	5
Workload	150 h: Contact 50 - 70 h; Exercises 20 h; Self-study 60-80 h
Module Coordinator	**Name** Dr. Christoph Kopp **Phone** +41 31 910 21 20 **Email** christoph.kopp@bfh.ch **Address** Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences, Laenggasse 85, 3052 Zollikofen
Lecturers	• Oliver Gardi • Dr. Christine Jurt • Dr. Christoph Kopp • Dr. Urs Scheidegger • Dr. Christoph Studer
Entry Requirements	None
Learning Outcomes and Competences	After completing the module students will be able to: • design, implement and analyze observational studies in research projects; • select and use from a wide range of qualitative and quantitative research methodologies and techniques the appropriate one; • reflect on methodologies, techniques and their own data generating process in order to a) evaluate the quality of the research findings, b) exchange experiences and c) understand and integrate other practices; • apply practical skills of doing research in the field
Module Content	The module focuses on approaches and methods for systems research (building on prior knowledge of students on plot-research and planned experiments). It consists of three main parts: a) Research process, research strategies and problem solving (2 days): Introduction to research process, discussion of different rationales of research (observational studies, on-farm trials, surveys), and examples for combining natural and social science methods. b) Research methods in theory and practice: examples, rationales, reflections (8 days): Applying different methods from natural and social science in the field (data generation and data analysis), exchange of experience and assessment of methods for different research questions. c) Example of a research project (3 days): With the experience of the field we will come back to research strategies and problem solving referring to an actual applied research project or to the own master thesis research; we will discuss methods, alternatives and their tradeoffs as well as the scientific soundness of the research design.
Teaching / Learning Methods	Lectures will help to structure the vast field of research approaches and methods, and introduce the steps of the research process. During seminar and exercise lessons different methods and techniques from social and natural science are presented, applied and critically discussed. Self-study and coaching mainly focus on the field studies. In skills-labs students present, test and improve the discussed research instruments.
Assessment of Learning Outcome	1) Presentation of a research method (assessment of the method, alternatives, tradeoffs and example) (30%)

	2) Short paper on the research design in in a specific research project with reflection / justification of the methods, discussion of alternatives, tradeoffs and soundness (40%) 3) Presentation of results based on social science methods in a specific research project, including justification of methods, and a critical analysis of the process of application reflecting on challenges and highlights (30%).
Bibliography	Fink A, 2003. The Survey Handbook (2nd edition). SAGE Publications, 167 p. (on moodle) Gomm R, 2008. Social research methodology: a critical introduction. Palgrave Macmillan, New York, 400 p. (chapters for self-study) Marsland N, Wilson I, Abeyasekera S, Kleih U, 2001. Socio-economic methodologies for natural resources research. Best Practice Guidelines. Natural Resource Institute, Greenwich, 18 p. (on moodle) Mukherjee N, Jena B, 2001. Learning to share: experiences and reflections on PRA and other participatory approaches. Concept Publishing Company, New Delhi, 175 p. Rickerl D, Francis C, 2004. Agroecosystems analysis. American Society of Agronomy, Madison.
Language	English
Comments	The following sequences are compulsory for students: Assessment of learning outcome Part 1 (presentation); excursion to the field (2 days). For details on compulsory sequences, please refer to the detailed schedule of the module, which will be uploaded on Moodle four weeks before the start of the module. It is recommended to take this module early in the MSc course
Last Update	20.06.2016 / Christoph Kopp