Module	**Bioactive Food Ingredients**
Code	MSLS_FNH-5
Degree Program	Master of Science in Life Sciences (MSLS)
ECTS Credits	5
Workload	150 h: Contact: 71 h, self-study: 79 h
Module Coordinator	**Name** Wilfried Andlauer **Phone** 027 606 86 37 **Email** Wilfried.andlauer@hevs.ch **Address** Route du Rawyl 47, 1950 Sion
Lecturers	• Dr. Agnieszka Kosinska Cagnazzo • Guest lecturers
Entry Requirements	Bachelor of Science in Food Technology, in Nutrition or in a related course of study Knowledge of the principles of food chemistry as well as human nutrition and metabolism.
Learning Outcomes and Competences	After completing the module students will: • have the knowledge the bioavailability and bioactivity of major and minor food ingredients • be able to evaluate analytical approaches and techniques for biological activity of food ingredients • be aware of new trends in functional food development • be able to evaluate current literature in nutrition and food science
Module Content	The module covers selected topics of the wide field of bioactive food ingredients. Firstly, background, definitions, and classification of functional food will be introduced. Then the nature, sources and biological functions of bioactives from major and minor food ingredients will be presented. The bioactives covered will include: carbohydrates, proteins, lipids, and phytochemicals such as phenolic compounds, carotenoids and phytosterols. The focus will be brought to the bioavailability and the mechanism of action. The overview on analytical approaches and techniques to access biological activity of food ingredients will be presented.
Teaching / Learning Methods	• Lectures and seminars with presentations by students • Exercises individually and in groups • Discussion on current trends in functional food
Assessment of Learning Outcome	• Seminar presentations and contributions to discussions (30 %) • Oral examination at the end of the module (70 %)
Bibliography	• Aluko RE, 2012. Functional foods and nutraceuticals. Springer, New York. • Belitz H-D, Grosch W, Schieberle P, 2009. Food chemistry (4th rev. and extended ed.). Springer, Berlin. • Gropper SS, 2012. Advanced nutrition and human metabolism (6th Ed.). Cengage Learning, Belmont OH • Damodaran S, Fennema OR, 2008. Fennema's food chemistry (4th ed.). CRC Press, Boca Raton. • Nelson DL, Cox MM, Lehninger AL, 2008. Lehninger principles of biochemistry

	(5th ed., [various printing]). W.H. Freeman, New York. • Goldberg I (ed.), 1994. Functional Foods. Designer Foods, Pharmafoods, Nutraceuticals, XX, 571 p. • Wildman RE, 2007. Handbook of nutraceuticals and functional foods (2nd ed.). Taylor & Francis, Boca Raton, FL, 541 S. • Selected research articles on functional food ingredients will be posted on the moodle platform.
Language	English
Last Update	24.03.2017 / Wilfried Andlauer