

## P07 Soil and plant science

<b>Module</b>	<b>Soil and plant science</b>							
<b>Code</b>	<b>P07</b>							
Coordinator	Prof. Dr. M.R. Finckh							
Language	English							
Stud. workload	180h (60h contact time)							
Credits	6 ECTS							
Frequency (WS/SS)	WS							
Instructors	Prof. Dr. A. Bürkert, Prof. Dr. M.R. Finckh, Dr. H. Saucke							
Contents	<p><u>Fundamentals of soil science</u>: Physical properties (texture, soil water, pore space), chemical properties (buffering, exchange capacity, nutrients), biological properties (organic matter, edaphon), soil formation and classification</p> <p><u>Plant nutrition</u>: Role of major and minor elements in plants, nutrient availability and nutrient mobilisation, plant nutrients and food quality</p> <p><u>Plant breeding and genetics</u>: plant morphology, genetics and breeding: principles of plant domestication and use, characterization and evaluation, use of genetic resources in plant breeding, genetic basis for plant breeding</p> <p><u>Plant protection</u>: principles of plant pathology and entomology, genetics of plant diseases, epidemiology, plant defence mechanisms; insect physiology and ecology</p>							
Objectives	<p>Bridging module for students lacking basic knowledge in some agronomy disciplines. With the help of lectures and reading materials students will be enabled to fill in gaps and get updated on state-of-the art knowledge with a special focus on questions pertinent to organic agriculture.</p> <p>Students having taken this module will be able to follow advanced courses in the above fields.</p>							
Literature	<p>Brady, N.C. 1990: The nature and properties of soils. 10th edition, Prentice Hall; Marschner, H. 1995: Mineral Nutrition of Higher Plants, Academic Press, New York; Sanchez, P. 1976: Properties and Management of Soils of the Tropics, Wiley, New York; van Wyk, B.E. 2005: Food Plants of the World. Briza Publication, Pretoria; Rehm, S., Espig, G. 1991: The Cultivated Plants of the Tropics and Subtropics. Verlag Josef Margraf, Weikersheim, Germany; Agrios, G.N. 2005: Plant Pathology, 5th edition, Academic Press, New York; Pedigo, L.P. 2002: Entomology and Pest Management, 4th edition, Macmillan Pub Co.</p>							
Study system usability	Economy		Organic		Tropical			
	-		(C) bridging module		(C) bridging module			
Entrance requirements	none							
Instruction type	Lecture	Seminar	Excursion	Practice	Tutorial	Project		
Duration [contact h]	50	10						
Examination type	Oral test	Written test	Homework	Sem. speech	Protocol	Work report	Proj. report	Proj. pres.
	x	x						
Grade composition	100 % oral or written test							