

Module descriptions MSc Sustainable International Agriculture

Grade composition	60% oral test, 40% seminar speech
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P14M Plant breeding methodology and genetic resources

Module	Plant breeding methodology and genetic resources							
Code	P14M							
Coordinator	Prof. Dr. H.C. Becker							
Language	English							
Stud. Workload	180h (56h contact time)							
Credits	6 ECTS							
Frequency (WS/SS)	SS							
Instructors	Prof. Dr. H.C. Becker, Prof. Dr. W. Link							
Contents	Principles of breeding methodology: Response to selection, breeding methods for clonal, line, hybrid and population cultivars. Marker assisted selection for monogenic and polygenic traits. Use of plant genetic resources: wild species, <i>ex-situ</i> and <i>in-situ</i> conservation, on-farm management. Breeding for marginal environments, demonstrated with examples from temperate and tropical regions.							
Objectives	Students learn the integration of classical and molecular approaches to solve present problems in plant breeding. Social aspects have to be considered. Students learn in own presentations to draw critical conclusions from recent research papers and to communicate these to other students.							
Literature	Lecture based material							
Study system usability	Economy		Organic			Tropical		
	-		M			M		
Entrance requirements	Basic knowledge (B.Sc. level) in genetics and plant breeding							
Instruction type	Lecture		Seminar		Excursion	Practice	Tutorial	Project
Duration [contact h]	44		12					
Examination type	Oral test	Written test	Homework	Presentation	Protocol	Work report	Proj. report	Proj. pres.
		x		x				
Grade composition	70% written test, 30% presentation							

P15M Methods and advances in plant protection

Module	Methods and advances in plant protection							
Code	P15M							
Coordinator	Prof. Dr. M. R. Finckh							
Language	English							
Stud. workload	180h (60h contact time)							
Credits	6 ECTS							
Frequency (WS/SS)	WS							
Instructors	Prof. Dr. M. Finckh, Dr. H.Saucke							
Contents	<ul style="list-style-type: none"> - Advanced course in plant pathology and entomology - Methodology and evaluation methods in plant protection - Case studies of specific plant protection issues in organic farming in the form of lectures, seminars and practical courses 							
Objectives	Students are able to critically evaluate published results and apply this knowledge to actual problems in the field. They are also able to deal with problems in the field: Identification and measurements, design of experimental and analytical approaches to problems.							
Literature	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.							
Study system usability	Economy		Organic			Tropical		
	-		M			M		
Entrance requirements	Introductory course in plant protection (entomology and pathology, at least 6 ECTS or equivalent) or bridging module Soil and Plant Science							
Instruction type	Lecture		Seminar		Excursion	Practice	Tutorial	Project
Duration (contact h)	30				10	20		
Examination type	Oral test	Written test	Homework	Sem. speech	Protocol	Work report	Proj. report	Proj. pres.
	x	x		x		x		
Grade composition	70% written or oral test, 30% work reports or seminar speech							