Module Name	1.10 Nutrient Cycles and Sustainability
Identification code	AEF294, EM1.10 **(QIS-registration for examination) 72500** **The modul is not applicate in WS 2012/13**
Subtitle	
Courses embedded	
Term	Winter
Coordinator	Prof. Dr. K.-H. Mühling
Teachers	Prof. Dr. K.-H. Mühling
Tuition language	English
Programme involvement	Elective MSc Environmental Management
Teaching form, contact time per week class size	**Lecture** Nutrient Cycles (30h/90) **Seminar** Ecophysiology of crops (15h/45h) **Exercises** Nutritional ecology (15h/45h) 15
Workload overall Contact time	180h 60h
ECTS credit points	6
Preconditions prescribed	Basic knowledge of biology, chemistry, plant alimentation and plant cultivation
Prerequisites recommended	
Learning outcomes	Students have knowledge of nutrient dynamics of different agroecosystems and an understanding of the complexity of the interaction of location and plants and are familiar with the criteria of sustainable cultivation. They are able to conceptualize cultivation concepts in humid, semi-arid and arid regions and are able to analyse the effects of changes in nutrient management on different crop-rotations
Content	Nutrient inputs, nutrient outputs, nutrient balance of soils, criteria of sustainability, trace, roots-soil interaction , gas emission (Methan, NOx), heavy metal dynamics, adaption of plants to saline and acid soils and adaption strategies of plants to such conditions
Assessment	Written exam 100%
Teaching media	Powerpoint-Presentationen, Exercise script
References	Lambers etal: Plant Physiology Ecology Larcher: Physiology Plant Ecology Schulze et al. Plant Ecology
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