

Minor Plant Breeding and seed production – APSP

Coordinator:	HEW	Credits:	15
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Elements	ECTS	Name	Mode of exam	Exam Period	Literature
APSP01	4	Assessment	Assessment	T2	Recommended: Acquaah, G. (2012) Principles of Plant genetics and breeding. Wiley-Blackwell. Reader Applied Plant Breeding
APSP02	4	Genetic variation and breeding methods	Written exam	T2	
APSP03	3	Biology of seed production	Written exam	T1	
APSP04	2	Breeding for resistance	Written exam	T2	
APSP08	2	Experimental design and field trials	Assignment (O/V/G)	T1	

Entrance requirements:	Knowledge of plant physiology, Mendelian genetics, crop production and protection, basic statistics. Standard requirements for all international students (min. 180 EC background in relevant field of study, appropriate level of English)
Professional task:	As an assistant breeder of smaller crops, your task is to design, organize and implement a breeding program. In cooperation with the main breeder you will need to make germ plasm choices based on crop production and market analysis and set up a detailed plan for the planting/sowing, crossing and selection.
Role:	Assistant Breeder/ Research assistant
Methods:	Lectures, trainings, assignments, excursions, fieldwork, team work and self-study.
Fields of expertise:	Learning objectives (the student is able to):
Genetic variation and breeding methods	Choose the most appropriate breeding method for different crops and their traits; Assess selection trails and select plants based on the genetic background of the traits.
Biology of seed production	Explain the reproduction cycle and the process of seed production in plant breeding. Describe the role of the seed companies in the agricultural chain in the Netherlands.
Breeding for resistance	Apply the biology and genetic basis of pests and disease resistance in resistance breeding approaches.
Experimental design and analysis	Design field trails for a breeding program and analyze data using MS Excel and other statistical programs.
Aeres competencies	
<ol style="list-style-type: none"> 1. To (project)manage 2. To cooperate 3. To present 4. To research 5. To organize 	
Final qualifications	
<p>This minor meets the following final qualifications from the Bachelor programme of Applied Biology:</p> <ol style="list-style-type: none"> 1.Design, execute and report biological applied research from the perspective of organism- and population level. 2.Communicate the results of biological research in a manner suitable to the target audience. 4.Work on a biological problem in a project-based approach. 	