

## Minor Advanced methods in Plant Breeding – AMBP

<b>Coordinator:</b>	KNB	<b>Credits:</b>	15
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Elements	ECTS	Name	Mode of exam	Exam Period	Literature
AMBP01	6	Assessment	Assessment	T2	Recommended: Acquaah, G. (2012) Principles of Plant genetics and breeding. Wiley-Blackwell.
AMBP02	2	Training Data Analysis	Assignment (O/V/G)	T2	
AMBP03	2	Molecular Breeding 1	Written exam	T1	
AMBP04	2	Molecular Breeding 2	Written exam	T2	
AMBP05	3	Training Clonal Propagation	Assignment (O/V/G)	T2	

<b>Entrance requirements:</b>	This minor can only be followed together with the minor Plant breeding and seed production (APSP). Standard requirements for all international students (min. 180 EC background in relevant field of study, appropriate level of English)
<b>Professional task:</b>	As an assistant breeder working on a major crop, you are requested by the main breeder to work out different aspects of the breeding program. The aims of the program are set, but you have to decide which germ plasm resources and (novel) breeding tools should be used and how.
<b>Role:</b>	Assistant Breeder, Research Assistant
<b>Methods:</b>	Lectures, trainings, assignments, excursions, fieldwork, teamwork and self-study.
<b>Fields of expertise:</b>	<b>Learning objectives (the student is able to):</b>
Molecular Breeding	Describe the most important molecular tools to enhance the breeding process;  Discuss laws and regulations regarding genetic modification.
Training data analysis	Use mixed models, multivariate analysis and spatial analysis to analyse data from novel data collection from field trials.
Training Clonal propagation and in vitro	Discuss the importance of cell and tissue culture in plant breeding;  Apply the most important methods for clonal propagation and tissue culture.
Plant Breeding in international context	Mention the most important players and developments in the worldwide sector of Plant Breeding.
<b>Aeres competencies</b>	
<ol style="list-style-type: none"> <li>1. To research</li> <li>2. To innovate</li> <li>3. To be self-driven</li> <li>4. To globalize</li> </ol>	
<b>Final qualifications</b>	
<p>This minor meets the following final qualifications from the bachelor programme of Applied Biology:</p> <ol style="list-style-type: none"> <li>1. Design, execute and report biological applied research from the perspective of organism- and population level.</li> <li>2. Communicate the results of biological research in a manner suitable to the target audience.</li> <li>3. Appreciate knowledge of biological specialisation, apply latest developments and obtain new knowledge.</li> <li>5. Have insight in own functioning within the biological field, show sustainable behaviour and be able to justify one's actions within this field.</li> </ol>	