Appendix I Module directory

A. Master degree programme "Integrated Plant and Animal Breeding"

Achievements amounting to 120 C must be completed successfully.

1. Block A - Compulsory modules

The following four compulsory modules worth overall 27 C must be successfully completed.

M.iPAB.0001	Quantitative genetics and population genetics	(6 C, 6 WLH)
M.iPAB.0002	Breeding schemes and programs in plant and animal breeding	(6 C, 4 WLH)
M.iPAB.0003	Statistical genetics, breeding informatics and experimental design	(6 C, 4 WLH)
M.iPAB.0004	Internship	(9 C, 6 WLH)

2. Block B – Elective compulsory modules A

Out of the following elective compulsory modules at least four modules worth overall at least 21 C must be successfully completed.

M.iPAB.0005	Poultry breeding and genetics	(6 C, 4 WLH)
M.iPAB.0006	Breeding informatics	(6 C, 4 WLH)
M.iPAB.0008	Molecular and biotechnological methods in plant and animal breeding	(6 C, 4 WLH)
M.iPAB.0009	Genetic resources	(6 C, 4 WLH)
M.iPAB.0010	Legal issues in plant and animal breeding	(3 C, 2 WLH)
M.iPAB.0011	Seed marketing	(6 C, 4 WLH)
M.iPAB.0012	Journal Club: Key papers in animal and plant breeding	(6 C, 4 WLH)
M.iPAB.0014	Data Analysis with R	(3 C, 2 WLH)
M.iPAB.0015	Applied Machine Learning in Agriculture with R	(6 C, 4 WLH)
M.iPAB.0016	Applied effective R programming in animal breeding and genetics	(3 C, 2 WLH)
M.iPAB.0017	Applied Bioinformatics with R	(6 C, 4 WLH)
M.iPAB.0018	Introduction to the molecular genetic analysis of plant genetic resources	(6 C, 4 WLH)
M.iPAB.0019	Scientific Project: scientific methods, procedures and practical skills of animal and plant breeding	(9 C, 6 WLH)
M.iPAB.0021	Plant in vitro Cultures and Somatic Cell Genetics	(6 C, 4 WLH)
M.iPAB.0022	Molecular Genetics and Genomics	(6 C, 4 WLH)
M.Agr.0020	Genome analysis and application of markers in plant breeding	(6 C, 4 WLH)

M.Agr.0114	Safety evaluation of bio-technological processes in plant breeding	(6 C, 4 WLH)
M.Cp.0004	Plant diseases and pests in temperate climate zones	(6 C, 4 WLH)
M.Cp.0016	Practical statistics and experimental design in agriculture	(6 C, 4 WLH)
M.FES.324	Environmental biotechnology and forest genetics	(6 C, 4 WLH)
M.SIA.A02M	Epidemiology of international and tropical animal infectious diseases	(6 C, 4 WLH)
M.SIA.A14	Organic livestock farming under temperate and tropical conditions	(6 C, 4 WLH)
M.SIA.A15M	Scientific writing in natural sciences	(6 C, 4 WLH)
M.SIA.E11	Socio-economics of rural development and food security	(6 C, 4 WLH)
M.SIA.E13M	Microeconomic theory and quantitative methods of agricultural production	(6 C, 4 WLH)
M.SIA.I14M	GIS and remote sensing in agriculture	(6 C, 4 WLH)
M.SIA.P13	Agrobiodiversity and plant genetic resources in the tropics	(6 C, 4 WLH)

3. Block C – Elective compulsory modules B

Five additional modules worth overall at least 30 C must be successfully completed. Students can earn the credits through elective modules from any master study programme at the faculty of agriculture, University of Goettingen, from other institutions participating in the programme, or from other agricultural faculties or similar study programmes at other universities.

4. Block D – Key competencies

The following two compulsory modules worth overall 12 C must be successfully completed.

M.iPAB.0007	Biotechnology and molecular genetics in plant and animal breeding	(6 C, 4 WLH)
M.iPAB.0013	Selection theory, design and optimization of breeding programs	(6 C, 4 WLH)

5. Master thesis

Completion of the Master's thesis is worth 24 Credits.

6. Colloquium for master thesis

Successful completion of the colloquium for the Master's thesis is worth 6 Credits.