

Module code	AEF-agr046
number online registration	AgriGenomics EM 1 91100 with examinations 91110+91120
Module name	Methods for breeding field crops
Module name - german	Zuchtmethodik landwirtschaftlicher Kulturarten
Program of Study	M.Sc. Agricultural Sciences mandatory module Plant Sciences M.Sc. Elective Module AgriGenomics
Offered	Once a year, winter semester
Module coordinator	Prof. Dr. Christian Jung
Module advisor	Prof. Dr. Christian Jung
Courses and teachers	Lecture: Methods for breeding field crops (C. Jung by F. Kopisch-Obuch) Seminar: Crop breeding research (C. Jung with F. Kopisch-Obuch)
Prerequisites	Advanced understanding of genetics, evolution, botany and breeding of major crop species (successful passing of module "Introduction to crop and animal breeding")
Language	English
Module capacity on campus students	unlimited for M.Sc. Agricultural Sciences subject area Plant Science M.Sc. AgriGenomics: 10 registration via OLAT
Module capacity off campus students	5 registration via OLAT
Course types (classroom/ total workload)	Lecture (45 h/135 h), seminar (15 h/45 h)
Schedule	Seminar at the end of the semester
Grading	Oral examination: 100% C. Jung, Dr. F. Kopisch-Obuch
ID-card	Required for exams
European Credit Points	6
Module Objectives	The students learn how crop plants evolved from their wild ancestors. They learn basic breeding methodology and specific breeding programs for the respective crops. The features of different kinds of cultivars will be understood. Emphasis will be given to biotechnological techniques like molecular markers and genetically modified plants. The students will also learn how genomic techniques are employed in modern breeding schemes.
Contents	The module deals with the most important crops under central European conditions. Botany, genetics, importance and history of the crops will be introduced. General and specific aspects of breeding methodology will be explained.
Taught skills	Methodical responsibility, key qualifications
Course materials	Textbooks, Internet, scientific literature, lecture notes