

Module number	EM6
Module name	Biotechnology in Phytomedicine
Program of Study	MSc elective module
Offered	Once a year, summer semester
Module coordinator	Prof. Dr. Daguang Cai
Module advisor	Prof. Dr. Daguang Cai
Courses and teachers	<p>Lecture: Biotechnology in Phytomedicine (D. Cai)</p> <p>Practical course: Basic Gene Techniques for Phytomedicine (D. Cai, W.Z. Ye)</p>
Prerequisites	Basic knowledge of Phytopathology, genetics and molecular pytomedicine
Language	English
Module capacity on campus students	12, Registration starts one week before lecture beginning at the secretary's office of the Institute for Phytopathology, CAU, Hermann-Rodewald-Str. 9, 3 th floor, room 321
Module capacity off campus students	0
Course types (classroom/ total workload)	Lecture (30 h/90 h), practical course (30 h/90 h)
Schedule	Weekly and block course
Grading	Oral exam: 75% (D. Cai, T. W.Z. Ye) Practical report: 25%, (D. Cai, W.Z. Ye)
ID-card	Required for exams
European Credit Points	6
Module Objectives	Advanced understanding of the principles of gene techniques and their application in phytomedicine
Contents	<ul style="list-style-type: none"> ▪ DNA/RNA techniques, cloning and sequence analysis ▪ PCR, dPCR, qPCR and qRT-PCR ▪ Expression of recombinant proteins in eukaryotic/ prokaryotic systems ▪ PCR-based molecular diagnostics ▪ SSH-library, array and chip-based transcript profiling ▪ Genetic engineering of plant disease resistance, RNAi technique and its application
Taught skills	Professional expertise and technical skills, key qualifications
Course materials	Printed content outlines, lecture-related review articles and textbooks. Course materials are available online.