

Georg-August-University Göttingen

Master Program „Crop Protection“

Modul M.Agr. 0039 „Molecular Techniques in Phytopathology“

Contents, Objectives		C/H PER SW
Contents: Lecture Basic theoretical and practical knowledge of the chemistry nucleic acids and Proteins. Understanding techniques in molecular biology. Solutions for several scientific problems are demonstrated and discussed.		6 C/4 H PER SW
Practical <ul style="list-style-type: none">- Isolation of plasmid and total DNA- Isolation of DNA-fragments from agarose gels- analysis of restriction- agarose-gel electrophoresis- cloning of PCR products (enzymatic modification, ligation)- transformation and in vivo amplification of plasmids- DNA blotting-non-radioactive marking of DNA probes (DIG-dUTP)- southern-hybridization and immunological detection of hybridized probes using chemoluminescent substrates- ITS-RFLP analysis of fungal pathogens of oilseed rape- real-time PCR diagnostic of mycotoxin producing fungi infecting cereals		Workload : 180 h
Objectives <ul style="list-style-type: none">- Knowledge of methods to deal with nucleic acids.- ability to transfer and develop methods for solving scientific questions/topics- presentation and interpretation of scientific results		Contact time: 56 h
Type of instruction and examination		Self study time: 124 h
Lecture 28 h , practical 28 h		
Examination: Oral examination ca. 20 min.		
Type of module	Entrance requirements	
Elective module	none	
Frequency	Duration	
Winter	One semester	
Language	Number of students	
English	16	
Coordinator		
Dr. B. Koopmann		