

Module variant to: Topics in Microbiology

Module: Plant-microbe interactions and single-cell methods			
University/Department/Teaching Unit: Freie Universität Berlin/Department of Biology, Chemistry, Pharmacy/Biology			
Module coordinator: Prof. Dr. Remus-Emsermann, Rudolf Schlechter, Mitarbeitende der AG Remus-Emsermann			
Prerequisites: none			
Learning objectives: The module will give insight and discuss a broad spectrum of topics regarding plant-microbe interactions as well as single-cell microbiology, from the perspective of physiology, genetics and genomics, microbial ecology and evolution. After attending this module, students will be able to identify and discuss topic specific questions and will have further insights into the methodological options to test hypotheses.			
Content: Environmental microbiology with a focus on bacteriology. Reductionist approaches to study microbial ecology of natural environments such as synthetic communities, bacterial bioreporters, high spatial resolution approaches, and biomimetic substrates. Furthermore, molecular microbe-plant interactions, omics studies and environmental microbiology may be subjects of the seminars. The attendees will present at least a couple of papers, one of the presentations will be graded. Last but not least, the RElab will report and discuss recent laboratory findings. The module will try to build a safe environment to test and improve the attendee's abilities to present and discuss in public.			
Modes of instruction	Contact hours (hours per week during the semester)	Types of active participation	Work load (in hours)
Lecture (V)	2	–	Class attendance (lecture) 30 Preparation, before and after (lecture) 15
Seminar (S)	1	Preparation of scientific work relevant to the presentation, participation in the discussion and question sections	Class attendance (seminar) 15 Preparation, before and after (seminar) 15 Exam preparation and exam 75
Module assessment		Written exam (60 minutes), wholly or partially in multiple-choice format; can also be carried out electronically or written report on research results (approx. 10 pages) or examination colloquium (approx. 20 minutes)	
Language		English	
Regular attendance required		Seminar: yes, lecture: attendance recommended	
Total workload		150 hours	5 credit points
Duration		one semester	
Frequency		irregular	
Applicability		Master's degree program M.Sc. Biology	

Utilization in the following specializations (decision by the examining board):

Biodiversity, Evolution and Ecology	x
Genetics and Genomics	x
Microbiology	x
Molecular- and Cellular Biology	x
Molecular Plant Sciences	x
Neurobiology	
Biology	x