Module variant to: Topics in Molecular Plant Sciences

Module: AI Applications in Plant Sciences	
University/Department/Teaching Unit: Freie Universität Berlin/Department of Biology, Chemistry, Pharmacy/Biology	
Module coordinator: arcel Wiermer, Tiziana Guerra	
Prerequisites: none	
Learning objectives: The participants will be equipped with a solid foundation in artificial intelligence (AI) and its practical applications within the field of plant sciences. They will be able to apply AI as powerful tool to enhance their own research and to address critical challenges in plant biology, agriculture and environmental sustainability. The students will also be able to see the limitations of the current state-of-the-art.	
Content: This cutting-edge module explores the convergence of technology and biology, giving the students a general overview on AI in plant sciences that is already applied or in development. External experts from leading companies and research institutions provide insights into their company's AI-driven projects, and discuss the latest advancements in the field. The students will exolore and evaluate research literature edited or created with the helo of AI and criticallv analvze available AI software.	

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) Preparation, before and after (lecture)	30 15
Seminar (S)	1	Preparation of scientific papers, participation in discussion and question-and-answer session	Class attendance (seminar) Preparation, before and after (seminar) Exam preparation and exam	15 15 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