Module variant to: Computational Biology

Module: Introduction to Ecological Modelling	
University/Department/Teaching Unit: Freie Universität Berlin/Department of Biology, Chemistry, Pharmacy/Biology	
Module coordinator: Selina Baldauf, Britta Tietjen	
Prerequisites: none	
Learning objectives: After completing this module, students have basic knowledge of the quantitative description and dynamics of an ecosystem or ecosystem components (e.g. populations). They can describe positive and negative feedbacks between different system variables with the help of models and have mastered the basics of programming.	
Content: Introduction to ecological modelling Basics of a programming language Implementation of an application example.	

Modes of instruction	**Contact hours** (hours per week during the semester)	**Types of active participation**	**Workload** (in hours)	
Lecture (V)	1	–	Class attendance (lecture) Preparation, before and after (lecture)	15 15
Seminar (S)	2	Presentation and discussion	Class attendance (seminar) Preparation, before and after (seminar)	30 60
PC-based seminars (SPC)	2	Developing their own model, programming, evaluating outcomes, solving practice assignments, critically discussing results	Class attendance (SPC) Preparation, before and after (SPC) Exam preparation and exam	30 70 80

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 and PC-based seminar: yes, lecture: attendance recommended	
Total workload	300 hours	10 credit points
Duration	one semester	
Frequency	irregular	
Applicability	Master's degree program M.Sc. Biology; Master's degree program M.Sc. Biodiversity, Evolution and Ecology	

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

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