

Basic Tutorial and Practical in Ecology, Evolution and Environment					
Identification number	Workload	Credit points	Term of studying	Frequency of occurrence	Duration
MN-B-E 2	180 h	6 CP	1 st term of studying	Winter term	15 weeks
1	Type of lessons Project work/Seminar		Contact times 60 h	Self-study times 120 h	Intended group size 12
2	Aims of the module and acquired skills Students who successfully completed this module ... <ul style="list-style-type: none"> • have acquired detailed knowledge and skills on analysis of molecular data in ecological experiments, enrichment culture, phylogeny and bioinformatic analysis, chromatography and bioassays of info-chemicals and stoichiometric analyses. • have acquired knowledge on current aspects of evolutionary ecology in the fields of aquatic, terrestrial and chemical ecology. • can quantify major freshwater nutrients and assess their impact on bio-geochemical cycling. • have learned how to present research results in oral form and to critically discuss scientific publications related to the topic of the module on a professional level. • are able to transfer skills acquired in this module to other fields of biology. 				
3	Contents of the module <ul style="list-style-type: none"> • Cell cultivation techniques and preservation; • Microscopy (e.g. Electron microscopy; High resolution video-microscopy) • Molecular ecology (e.g. Community genetics; Population genomics; Phylogenomics; Environmental transcriptomics) • Chemical ecology (e.g. Environmental chemistry; HPLC and mass spectrometry; Chemical communication; Metabolomics) • Community ecology (e.g. Community cell respiration; Microbial activity) • Theoretical concepts of ecology and evolution • Field ecology (e.g. field stations in Rees-Grietherbusch and Cologne) 				
4	Teaching/Learning methods <ul style="list-style-type: none"> • Project work; seminar; computer exercises; excursions; training on presentation techniques in oral form 				
5	Requirements for participation Enrollment in the Master´s degree course "Biological Sciences"; Simultaneous participation in the lecture "Ecology, Evolution and Environment - Theory and Methods"				
6	Type of module examinations Oral presentation (100 % of the total module mark)				
7	Requisites for the allocation of credits Regular and active participation; Oral presentation at least "sufficient"				

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8	Compatibility with other Curricula* None
9	Significance of the module mark for the overall grade 7.5 % of the overall grade
10	Module coordinator Prof. Dr. Hartmut Arndt; phone 470 3100, e-mail: teach-ecology@uni-koeln.de
11	Additional information Participating faculty: Prof. Dr. H. Arndt, Prof. Dr. M. Bonkowski, apl. Prof. Dr. J. Borchering, Dr. K. Dumack, Prof. Dr. E. von Elert, PD Dr. K. Lampert, Dr. F. Nitsche, Dr. C. Sánchez Arcos, Dr. A. Scherwaß, JProf. Dr. A.-M. Waldvogel Literature: <ul style="list-style-type: none">• Information about textbooks and other reading material will be given on the ILIAS representation of the course (https://www.ilias.uni-koeln.de/ilias/goto_uk_crs_3516848.html) General time schedule: Weeks 1-14: Weeks 1-14: Seminars/tutorials and oral presentations (starting at 2:00 p.m. at different dates, more details will be given in the introduction to the module). From Fri., November 27 at 12:00 a.m. to Son., November 29 at 4:00 p.m.: Field studies at the Ecological Research Station of the Institute of Zoology in Rees-Grietherbusch Introduction to the module: November 02, 2020 at 2:00 p.m., online (further information/link will be sent to your Smail-Account)