

Module Name Practical in Computational Biology						
Type of Module Basic Module				Module Code BM-B-C 2		
Identification Number MN-B-C 2	Workload 180 Hours	Credit Points 6 CP	Term 1. – 3. Semester	Offered Every WiSe	Start Winter Term Only	Duration 1 Semester
1	Course Types a) Seminar/Project work		Contact Time 60 h	Private Study 120 h		Planned Group Size 24
2	Module Objectives and Skills to be Acquired Students who successfully completed this module ... <ul style="list-style-type: none"> • are able to perform simple bioinformatic analyses and related tasks on personal computers running the Linux operating system. • have acquired practical skills in the use of common bioinformatic algorithms, computational sequence analysis tools as well as biological databases, and have acquired skills in the statistical evaluation of bioinformatic results. • know the kind of biological problems that can be solved with bioinformatic tools, can choose appropriate methods and judge the statistical and biological significance of the results. • can independently carry out small scientific projects related to the topic of the module. • have learned how to present research results in oral and written form and to critically discuss scientific publications related to the topic of the module on a professional level. 					
3	Module Content <ul style="list-style-type: none"> • Computer operating system Linux • Programming with shell scripts and the statistical programming language R • Use of biological databases • Organization of bioinformatics/computational biology experiments • Application of bioinformatic software to biological problems • Studying, presenting and discussing scientific literature related to the topic of the module • Writing of protocols and/or seminar papers 					
4	Teaching Methods <ul style="list-style-type: none"> • Project work; Seminar; Computer exercises; Training on presentation techniques in oral and written form 					
5	Prerequisites (for the Module) Simultaneous participation in the lecture module “Computational Biology”. Additional academic requirements: Good quantitative skills and strong motivation to work quantitatively are/is required.					
6	Type of Examination Weakly written homework exercises (100 % of the total module mark)					
7	Credits Awarded Regular and active participation; Passed oral presentation; Weakly written home exercises at least “sufficient”					

8	Compatibility with other Curricula None
9	Proportion of Final Grade 6/114
10	Module Coordinator Prof. Dr. Thomas Wiehe, phone 470 1588, e-mail: twiehe@uni-koeln.de
11	Further Information Participating faculty: Prof. Dr. A. Beyer, Prof. Dr. K. Hofmann, Prof. Dr. T. Wiehe Literature: • Information about textbooks and other reading material will be given on the ILIAS representation of the course