Module Name						
Seminar Computational Biology						

Type of Module			Module Code			
o Basic Module			Computational Seminar			

Identification Number	Workload	Credit Points	Term	Offered Every	Start	Duration
MN-B-C 2	180 h	6 CP	1st term of studying	Winter term	Winter term only	1 term

1	Course Types	Contact Time	Private Study
	Seminar (incl. Project work)	56h	14 h

2	Module Objectives and Skills to be Acquired
	Students who successfully completed this module • are able to perform basic 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
	• Computer operating system Linux • Programming with shell scripts and the statistical programming language R and Rstudio • 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 • Solving of algorithmic tasks and of exercise problems.

4	Teaching Methods
	• Project work; Seminar; Computer exercises; Training on presentation techniques in oral and written form

5	Prerequisites (for the Module)
	Enrollment in the Master's degree course "Master of Science in Computational Biology"; Simultaneous participation in the lecture module Computational Biology

6	Type of Examination
	Portfolio (100 % of the total module mark)

7	**Credits Awarded**
	Regular and active participation; Portfolio at least "sufficient"
8	**Compatibility with other Curricula**
	None
9	**Proportion of Final Grade**
	7.5 %
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 study material will be given on the ILIAS website of the course (see https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html)
	General time schedule: Tue. and Thu. from 2:00 to 4:00 p.m.
	Introduction to the module: Monday 07. October 2024, 9:00, Lecture hall COPT building. Updates to the schedule will be posted in ILIAS