Module Name							
Lecture Computational Biology							

Type of Module				Module Code			
o Basic Module				Computational Lecture			

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

1	Course Types	Contact Time	Private Study	Planned Group Size*
	Lecture	42 h	138 h	Approx. 50-70 students

2	Module Objectives and Skills to be Acquired
	Students who successfully completed this module
	- have acquired detailed knowledge about the fundamentals of bioinformatics/computational biology (BICB). - have acquired in-depth knowledge of important concepts and algorithms in BICB. - know the kind of biological problems that can be solved with bioinformatic tools. - are able to contextualize quantitative approaches and methods with other fields of biology.

3	Module Content
	- Basic algorithms - BICB algorithms - DNA and RNA sequence analysis - Genomes, transcriptomes, proteomes - Gene expression analysis - Prediction of protein architecture - Databases of biological sequences - Specialized biological databases - Mathematical and statistical modelling

4	Teaching Methods
	Lecture

5	Prerequisites (for the Module)
	Enrollment in the Master´s degree course "Biological Sciences"
	Additional academic requirements
	Good quantitative/mathematical skills are required.

6	Type of Examination
	Two hours written examination about topics of the lectures (100 % of the total module mark)

7	**Credits Awarded**
	Written examination 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 textbooks and other reading material will be given on the ILIAS representation of the course (https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html)
	General time schedule: Weeks 1-14: Mon. and Wed. from 9:00 to 9:45 a.m. as well as Fri. from 11:00 to 11:45 a.m.; Week 15 (Mon.-Fri.): Preparation for the written examination
	Introduction to the module: October 11, 2021 at 9:00 a.m., online (further information/link will be sent to your Smail-Account); for preparation to the module before this introduction see ILIAS link under literature.
	Written examination: February 04, 2022, second/supplementary examination March 04, 2022; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.

* Depending on how many students from other subject areas (and if indicated also from other master´s degree courses, see 5) choose this module.