

Program of Studies:	Master Program Bioinformatics
Name of the module:	Special-topic Lecture Biosciences: Principles of Epigenetics and Genomics
Abbreviation:	B-M-5
Subtitle:	-
Modules:	Lecture: 2 h (block course)
Semester:	2nd semester / every summer semester
Responsible lecturer:	Prof. Dr. Jörn Walter
Lecturer:	Prof. Dr. Jörn Walter, Dr. Gilles Gasparoni, group members
Language:	English
Level of the unit/ Mandatory or not:	Graduate course / mandatory elective
Total workload:	90 h = 30 h of classes (lecture), 60 h of private study
Credits:	3
Entrance requirements:	Basic knowledge in molecular genetics is essential!
Aims/Competences to be developed:	Obtaining an overview of epigenetic concepts and their relevance for human biology
Content:	<ul style="list-style-type: none"> - Introduction into basic mechanisms and enzymology of epigenetic control - Discussion of the developmental aspects of epigenetic modifications, particularly their importance for cell fate maintenance and cell function. - Summary of disease related aspects - Epigenomic mapping technologies, the basic principles of epigenetic data production, data management and data interpretation
Assessment/Exams	Written exam
Grade:	Grade of the exam
Literature:	<ul style="list-style-type: none"> - "Epigenetics", by David Allis, Marie-Laure Caparros, Thomas Jenuwein, Danny Reinberg, Monika Lachlan, 2015, 984 pages, ISBN 978-1-936113-59-0 - "Molekulare Genetik" (mit einem Kapitel über Epigenetik), Hrsg.: Alfred Nordheim, Rolf Knippers, 10. Auflage 2015, 568 S. , 620 Abb. , ISBN: 9783134770100 (only available in German) - "Cancer Genetics and Epigenetics: Two Sides of the Same Coin?" Review by You & Jones http://dx.doi.org/10.1016/j.ccr.2012.06.00