Program of Studies:	**Master Program Bioinformatics**
Name of the module:	**The Human Genome and Human Diseases**
Abbreviation:	**B-M-2**
Subtitle:	-
Modules:	Lecture: 2 h (weekly)
Semester:	2nd semester / every summer semester
Responsible lecturer:	Prof. Dr. Eckart Meese
Lecturer:	Prof. Dr. Eckart Meese, Prof. Dr. Jens Mayer
Language:	German
Level of the unit/ Mandatory or not:	Graduate course / mandatory elective
Total workload:	90 h = 30 h of classes and 60 h private study
Credits:	3
Entrance requirements:	Familiarity with the basics of genetics
Aims/Competences to be developed:	The students will be familiarized with the current level of research about the human genome. A main focus lies on mediating the connection between alterations of the human genome and the occurrence of genetically related diseases. The students will be enabled to recognize the importance of polymorphisms and mutations for the occurrence of genetically related diseases. They will learn to understand the differences between mutations/ polymorphisms on germ line level and somatic cell level.
Content:	The lecture mediates basics for understanding mutations in the human genome. Different kinds of mutations are presented, the probability of mutations for different cell types are treated, and the verification methods for mutations are made a subject of discussion. Building on these basics, different genetically related diseases are presented. The main focus at this is the connection between certain genetic alterations and the occurrence or the characteristics of certain diseases, respectively. Regarding the diseases, the development of human tumors is lifted besides other topics.
Assessment/Exams	Written exam
Grade:	Exam
Literature:	Lecture scripts