Program of Studies:	**Master Program Bioinformatics**
Name of the module:	**Molecular Biotechnology**
Abbreviation:	**B-M-1**
Subtitle:	-
Modules:	Lecture: 2 h (weekly)
Semester:	2nd semester / every summer semester
Responsible lecturer:	Prof. Dr. Bruce Morgan
Lecturer:	Prof. Dr. Bruce Morgan, Dr. Frank Hannemann
Language:	German (slides available in English)
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:	None
Aims/Competences to be developed:	Knowledge and application of molecular biological methods for genetic modification of productive organisms.
Content:	- Expression of proteins (Introduction) - Expression in Escherichia coli - Expression in yeasts (Saccharomyces, Pichia, Schizosaccharomyces) - Expression in insect cells - Expression in mammalian cells - Expression in plants - Methods of purification - Protein design (rational) and directed evolution of proteins for the production of optimized Biocatalysts
Assessment/Exams	One written exam, protocols
Grade:	Exam
Literature:	- Molekulare Biotechnologie (Clark, D., Pazdernik, N, Springer, 2009) - Der Experimentator Molekularbiologie/Genomics (Mülhardt, C, Springer, 2013)