Program of Studies:	**Master Program Bioinformatics**
Name of the module:	**Artificial Intelligence**
Abbreviation:	**I-M-5**
Subtitle:	Core Lecture
Modules:	Lecture: 4 h (weekly) Tutorial: 2 h (weekly)
Semester:	1st -3rd semester/at least every two years
Responsible lecturer:	Prof. Dr. Jörg Hoffmann
Lecturer:	Prof. Dr. Jörg Hoffmann, Prof. Dr. Jana Köhler
Language:	English
Level of the unit/ Mandatory or not:	Graduate course / mandatory elective
Total workload:	270 h = 90 h of classes and 180 h private study
Credits:	9
Entrance requirements:	For graduate students: none
Aims/Competences to be developed:	Knowledge about basic methods in Artificial Intelligence

Content:	- Problem-solving:
	  - Uninformed- and informed search procedures
	  - Adversarial search
	- Knowledge and reasoning:
	  - Propositional logic
	  - SAT
	  - First-order logic, Inference in first-order logic
	  - Knowledge representation, Semantic Web
	  - Default logic, rule-based mechanisms
	- Planning:
	  - STRIPS formalism and complexity
	  - Delete relaxation heuristics
	- Probabilistic reasoning:
	  - Basic probabilistic methods
	  - Bayesian networks

Assessment/Exams:	- Regular attendance of classes and tutorials - Solving of weekly assignments - Passing the final written exam - A re-exam takes place during the last two weeks before the start of lectures in the following semester.
Grade:	Will be determined from the performance in exams. The exact modalities will be announced at the beginning of the module.

| Literature: | Russel & Norvig Artificial Intelligence: A Modern Approach; further reading will be announced before the start of the course on the course page on the Internet. |