

# **Course Descriptions CiE**

**Course code:** IF-I-M201

**Course title :** Knowledge-Based Systems

**Hours per week:** 4

**Number of ECTS Credits allocated/work load:** 5

**Semester:** 1<sup>st</sup> or 2<sup>nd</sup> (Master of Computer Science)

## **Course contents:**

In order to solve problems for which there are no or only very complex mathematical models symbolic artificial intelligence techniques as well as neural networks are used. When doing so, various forms of knowledge representation, heuristic search procedures (rule-based systems, e.g. Prolog), fuzzy logic-based decision support (uncertain knowledge) and the learning ability of neural systems play an important role.

**Prerequisites:** none

## **Objective of the course/learning outcome:**

theoretical principles of non-algorithmic problem-solving methods and testing of the practical applications through term work.

## **Recommended Reading:**

U. Lämmel, J. Cleve: Künstliche Intelligenz, Fachbuchverlag Leipzig, 2008

S. Russell, P. Norvig: Artificial Intelligence: A Modern Approach, Pearson Education, 2003

**Teaching methods:** lectures with practical exercises (lab)

**Assessment methods:** written exam (60%), term work (40%)

**Language of instruction:** English or German

**Name of lecturer:** Klaus Köhler

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