



# Organization

# Lecturers

**Prof. Dr. Knut Hinkelmann**



**Prof. Dr. Holger Wache**



# Module Objective: Supporting Knowledge-Intensive Processes

- After completion of this module, the participants
  - ◆ will be able to assess which kind of knowledge representation and reasoning is adequate
  - ◆ are able to develop appropriate knowledge-based systems
  - ◆ can value the advantages of knowledge-based systems with respect to their costs
  - ◆ can create conceptual models of a domain
  - ◆ know approaches to turn data into knowledge that helps to make the right decisions.

# Module Content

- Introduction: Knowledge in processes
- Decision Tables
- Rules
  - ◆ Textual represented rule (i.e. Horn clauses)
  - ◆ Forward and backward chaining
  - ◆ Data-driven and Goal-oriented
  - ◆ Negation-as-failure
- Fuzzy Logic
- Knowledge Graphs
  - ◆ RDFS
  - ◆ Ontology Engineering
- Graphical Models
  - ◆ Modelling and Meta-modeling
  - ◆ Ontology-based meta-modeling
- Case-Based Reasoning
  - ◆ Similarity
- Machine Learning
  - ◆ Learning Decision Trees

# Module Organization

- Lectures: presentations, discussions, exercises
- Assignments/homework
  - ◆ Readings to prepare lectures
  - ◆ Exercises during weeks
- Credits: 6 ECTS

# Module Schedule

	Timeslots	Lectures	Lecturer
<b>April</b>			
Monday 12th	2pm - 6pm	4	Prof. Wache/Hinkelmann
Tuesday 13th	9am - 1pm	3	Prof. Knut Hinkelmann
Monday 19th	2pm - 6pm	4	Prof. Holger Wache
Tuesday 20th	9am - 1pm	3	Prof. Holger Wache
Monday 26th	2pm - 6pm	4	Prof. Holger Wache
Tuesday 27th	9am - 1pm	3	Prof. Holger Wache
<b>May</b>			
Monday 10th	2pm - 6pm	4	Prof. Holger Wache
Tuesday 11th	2pm - 6pm	3	Prof. Knut Hinkelmann
Monday 17th	2pm - 6pm	4	Prof. Knut Hinkelmann
Tuesday 18th	10am - 1pm	3	Prof. Knut Hinkelmann
Monday 31th	2pm - 6pm	4	Prof. Knut Hinkelmann
<b>June</b>			
Tuesday 1st	10am - 1pm	3	Prof. Knut Hinkelmann

# Module Information

## Website

[http://didattica.cs.unicam.it/doku.php?id=didattica:magistrale:kebi:ay\\_2021:main](http://didattica.cs.unicam.it/doku.php?id=didattica:magistrale:kebi:ay_2021:main)

## Literatur

- ◆ No Books
- ◆ Reading material will be provided for download