

Foundations of Data and Knowledge Systems

VU 181.212, WS 2010

1. General Information

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Outline

1. General Information

1.1 Classes

1.2 Communication

1.3 Course overview

1.4 Assessment

1.5 Literature

Classes

- **Place.** All classes will be held in the [Seminarraum 183/2](#) (Favoritenstraße 9-11, fourth floor).
- **Time.** All classes are [Tuesdays, 09:00 \(sharp\) – 11:00](#) starting on 9 November, 2010.
For the students' presentations (18 + 25 January), additional time (until 12:00) might be needed – depending on the number of participants.
- **Target group.** This course is primarily designed for students of the Vienna PhD School of Informatics; further graduate students with a strong background in mathematical logic and complexity theory are also welcome.

Communication

- (during, after) classes
- email
 - registration in TISS required
 - check your mail address in TISS

Course overview

- Focus: **Foundations of Rule-based Query Answering**
- Syntax of First-Order Predicate Logic
- Some Fragments of First-Order Predicate Logic
- Fundamentals of Classical Model Theory
- Declarative Semantics of Rule Languages
- Operational Semantics of Rule Languages
- Complexity and Expressive Power

Assessment

Components

- 1 Individual work on 1 research article
 - Details (e.g. assignment of articles) to be provided later
 - Oral presentation ca. 20-25 min (depending on number of students)
- 2 Oral exam at the end of the semester

Assessment of the Presentation

Criteria of a good presentation

- reasonable effort (ca. 40 hours)
- basic understanding of the article
- honestly identify parts which you did not understand (give a justification: which prerequisites were missing?)
- relate the article to the taught part of the course
- quickly check important background articles
- being able to answer questions (in particular, those relating the article to the course)

Literature

Basic reading

This course is mainly based on the following article:

François Bry, Norbert Eisinger, Thomas Eiter, Tim Furché, Georg Gottlob, Clemens Ley, Benedikt Linse, Reinhard Pichler, Fang Wei: [Foundations of Rule-Based Query Answering](#). Reasoning Web 2007, Lecture Notes in Computer Science 4636: pp. 1 – 153, Springer (2007).

Further articles

- Further references will be provided as we go along.
- Access to the proceedings of the most important conferences and journals in the field is free of charge inside the TUWIEN domain.

Access to Articles

- **ACM digital library:** <http://portal.acm.org/dl.cfm>
e.g., SIGMOD proceedings, ACM TODS, etc.
- **IEEE Xplore Digital Library:**
<http://www.ieee.org/web/publications/xplore/>
e.g., ICDE proceedings
- **via University library:** <http://www.ub.tuwien.ac.at/>
e.g., select “E-Journals” and search for desired journal
- **Some proceedings are free to everybody,**
e.g.: IJCAI proceedings: <http://www.ijcai.org/>
or VLDB proceedings: <http://www.vldb.org/>

Comfortable Search & Access via DBLP

- DBLP “Computer Science Bibliography”
- contains information on (almost) all relevant publications
- Overview: <http://www.informatik.uni-trier.de/~ley/db>
- Google-search, e.g., “DBLP <author>” or “DBLP <conference>”
- access to the article: click on text-icon
- free access from TUWIEN-domain as described above (e.g., ACM digital library, Springer Verlag, etc.)

Alternative Search Methods

- Citeseer, e.g., Google-search: “citeseer <title of article>”
- <http://scholar.google.com> (keyword search)
- Authors' Homepages