Overview of the Course

1. Modeling information through ontologies
   1. Introduction to ontologies
   2. Ontology languages
   3. UML class diagrams as FOL ontologies

2. Using logic for knowledge representation
   1. Main components of a logic
   2. Reasoning methods in logics
   3. Exercises on analyzing logics

3. Description Logics
   1. Introduction to DLs
   2. Reasoning in simple DLs
   3. More expressive DLs
   4. Fuzzy DLs
   5. Ontology modularization, integration, and contextualization

4. Ontology based data access
   1. Description Logics for data access
   2. Query answering over databases and ontologies
   3. Linking ontologies to relational data
   4. Reasoning in the DL-Lite family

5. Conclusions and references