COURSE PRESENTATION FORM

COURSE NAME
Knowledge Bases and Databases - Stream, Level A

COURSE CODE

LECTURER
Diego Calvanese

TEACHING ASSISTANT
To be determined

TEACHING LANGUAGE
English

CREDIT POINTS
4

LECTURE HOURS
24

EXERCISE HOURS
12

OFFICE HOURS
Friday, 15:00-17:00, Office 219, POS Building 2nd floor

PREREQUISITES
Notions about first-order logic as taught in an introductory BSc course on Logic; notions about relational databases as taught in an introductory BSc course; attendance of a course on Knowledge Representation is an advantage, but not strictly required.

OBJECTIVES
The aim of the course is to provide students with an understanding of the formal foundations of advanced topics in databases, and in particular in the application of techniques developed in knowledge representation to classical data management problems.

SYLLABUS
The lectures cover the problems of management of incomplete and inconsistent data, information integration, ontology mediated information access, reasoning about queries, and query reformulation.

TEACHING FORMAT
The course is organized as frontal lectures on the course topics complemented by monographic seminars that serve as a starting point for discussing the techniques involved. During lab sessions the students will familiarize with the usage and internals of state-of-the-art tools for managing and querying relational data sources in the presence of constraints (e.g., expressed through an ontology), and will work on a project.

ASSESSMENT
The exam consists of:
- a project [59 % of mark] + a final oral exam [41 % of mark]

Both parts have to be passed to pass the exam. In case of a positive mark, the project will count for all 3 regular exam sessions of the Academic Year (i.e., if the student fails the oral exam, he keeps the project and only needs to retake the oral exam).

READING LIST
Lecture notes and reading material covering the course topics will be provided during the course. Additional reading material will be assigned
on an individual basis, depending on the assigned project.

SOFTWARE USED
Protégé ontology editor. MySQL database engine.
Ontology-based Data Access Tool.

LEARNING OUTCOME
Students will acquire an understanding of the advanced languages, methodologies, and the use of knowledge representation techniques for accessing and querying information sources.

COURSE PAGE
http://www.inf.unibz.it/~calvanese/teaching/kbdb/