COURSE DESCRIPTION – ACADEMIC YEAR 2018/2019

Course title	**Seminars in Data and Knowledge Engineering**
Course code	72124
Scientific sector	INF/01
Degree	Master in Computer Science (LM-18)
Semester	1
Year	2
Credits	4
Modular	No

Total lecturing hours	24
Total lab hours	--
Total exercise hours	12
Attendance	Required
Prerequisites	Students should have a solid foundation in computer science and be familiar with the basic concepts of databases and database management systems. These prerequisites are, for example, covered in the following courses: Analysis, Probability Theory and Statistics, Introduction to Databases, Data Management Systems, Data Structures and Algorithms.
Course page	http://www.inf.unibz.it/dis/~nutt/Teaching/DKE1819

Specific educational objectives	The course belongs to the type "affini o integrative – formazione affine" in the curriculum "Data and Knowledge Engineering." The overall objective of this seminar is to study and discuss advanced technologies in database systems. The didactic objective of the course is to train students to identify research areas, perform literature research, and to critically read and study research papers. Students will also learn how to summarize the contents of a paper and how to present it in a seminar.

Lecturer	Werner Nutt
Contact	Piazza Domenicani 3, Room 2.09, Werner.Nutt@unibz.it, 0471-016126
Scientific sector of lecturer	INF/01
Teaching language	English
Office hours	During the lecture time span: by previous appointment, day of week and time will be determined at lecture start.
Lecturing Assistant (if any)	--
Contact LA	--
Office hours LA	--
List of topics	• Types and structure of research papers in Data and Knowledge Engineering (D&KE) • Reading, summarizing, and reviewing research papers in D&KE • Literature research in D&KE • Presentation of research in D&KE in a seminar talk
Teaching format	The course has several phases. First, there are predominantly frontal lectures on types and structure of papers, quality assessment of

	research, and research evaluation. Then, students practice reading, summarizing, and critically evaluation papers in a mock conference program committee. In parallel, students identify an area of their interest with Data and Knowledge Engineering and perform a literature research. They select two papers, a classical landmark paper and more recent research paper, which they summarize and finally present to their peers. During the later phases students take more initiatives when they evaluate papers, present outcomes of their literature research and give their presentation. The lecturer will assist students in their research and in preparing the presentation. For lectures and exercises, attendance is mandatory. Students who miss a lecture or exercise have to make up for that by writing and submitting an essay on the topic of the lecture or exercise.

Learning outcomes	Knowledge and understanding • Thoroughly understand the scientific method of investigation. Applying knowledge and understanding • Be able to identify new application requirements and business opportunities in the field of systems based on data and knowledge. Making judgments • Be able to independently select the documentation required to keep abreast of the frequent technological innovations in the field by using a wide variety of documentary sources: books, web, magazines. • Be able to identify reasonable work goals and estimate the resources required to achieve the objectives. Communication skills • Be able to present in a fixed time the content of a scientific / technical report in front of an audience also composed of non-specialists. • Be able to structure and prepare scientific and technical documentation describing research publications. Ability to learn • Be able to autonomously extend the knowledge acquired during the study course by reading and understanding scientific and technical documentation. • Be able to independently keep up to date with developments in the most important areas of Computer Science.

Assessment	The assessment of the course consists of three parts: • Coursework on research evaluation and literature research, including a mock program committee (30%) • Presentation of the paper(s) (40%); • Final oral exam (30%).
Assessment language	English
Assessment typology	Monocratic

Evaluation criteria and criteria for awarding marks	Coursework: Summarizing papers, evaluating papers, literature research (30%): in this part of the assessment, the ability to understand scientific methods of investigation, to make judgments, and to learn autonomously are covered. Presentation of the paper(s) (40%): this part of the assessment mainly covers the communication skills, while during the discussions the students can also show their ability to classify and judge research publications. Final oral exam (30%): the exam consists of questions on technical topics that arise in the selected research papers. In this part, students demonstrate that they have understood the scientific method of investigation and that they are able to learn and to keep up to date with new developments in Computer Science.

Required readings	A reading list with papers on research evaluation, literature research, and presentation techniques will be provided during the seminar. The papers to be read and presented by each student arise from the student's literature research and will be approved by the lecturer.
Supplementary readings	--
Software used	--