Course Unit Descriptor

Study Programme: Ph.D. in Computer Science

Course Unit Title: Databases

Course Unit Code: ID105

Name of Lecturer(s): Miloš Racković

Type and Level of Studies: Doctoral Academic Degree

Course Status (compulsory/elective): Elective

Semester (winter/summer): Summer

Language of instruction: Serbian (primary), English (secondary)

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

Number of ECTS Allocated: 7

Prerequisites: None

Course Aims:

The objective of the course is to study theoretical basis of the databases as well as their influence on the practical aspects of the modern and large databases (efficiency and concepts).

Learning Outcomes:

The successful student should be able to:

- provide critical review of the different database management systems and their characteristics
- critically evaluate the relationship between theoretical and practical aspects of the database management systems
- apply the research methods in the field of databases.

Syllabus:

Theory

Overview of the current research in the field: theoretical basis and background, the architecture of the database management systems, database aspects, database integrity, integration of various databases. Current trends in the research area, for example deductive and descriptive databases.

Practice

Illustrative implementation

Required Reading:

1. Raghu Ramakrishnan, Johannes Gehrke, Raghu Ramakrishnan, Johannes Gehrke, Database Management Systems, McGraw-Hill Science/Engineering/Math; 3 edition, 2002.

2. Jan L. Harrington, Object-Oriented Database Design Clearly Explained, Morgan Kaufmann, 1999.

3. Akmal B. Chaudhri, Awais Rashid, Roberto Zicari, XML Data Management: Native XML and XML-Enabled Database Systems, Addison-Wesley Professional, 2003.

Weekly Contact Hours: 2	**Lectures:** 2	**Practical work:** 0

Teaching Methods:

Lectures are held using classical teaching methods involving a projector. Students independently handle specific research topics, present and discuss the results with other students and lecturer. Student is obliged to write a seminar paper.

Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	**Final exam**	points
Seminar paper	60	oral exam	40