Course Unit Descriptor

Study Programme: Information Systems Engineering

Course Unit Title: Database Systems

Course Unit Code: IZOO57

Name of Lecturer(s): Ristić Sonja

Type and Level of Studies: bachelor

Course Status (compulsory/elective): compulsory

Semester (winter/ summer): summer

Language of instruction: english

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

Number of ECTS Allocated: 5

Prerequisites: none

Course Aims:.

Advanced education in database systems, with developing of students ability to involve in real-world projects of database design and implementation. Given the extremely dynamic development of commercial tools in this area, an important goal is to enable students to a systematic approach to the study of new tools that will enable them to quickly and easily master their use.

Learning Outcomes:

Students will get hands-on experience with: designing stored functions, procedures and triggers in a relational database system; explaining the basic principles and common trade-offs in relational database query optimization and transaction management; explaining the basic principles of database concurrency control, database distribution, safety, security and recovery.

Syllabus.

Characteristics and capabilities of database systems (DBS) / database management systems (DBMS). Transactional data processing. Transaction management system and data sharing and multiuser environment. Database security, safety and recovery. Data dictionary. Realization of database schema on a database server. Server programming techniques. Distributed databases. Database file organization. Query processing and query optimization. Database design methods.

Required Reading:

Relevant literature in English, tbd

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

Teaching Methods:

Lectures; laboratory exercises; individual consultations; team and individual work (assignments, complex exercises and project). Students are encouraged to communicate, to reason critically, to work independently and in the team, and to contribute actively to teaching process.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			