Study program: Informatics

Course title: Distributed Information Systems

Professor/assistant: Milovan O. Šarenac

Type of course: Elective

ECTS credits: 7

Prerequisites: none

Aims of the course: Students master the methodology of designing information systems at the conceptual and implementation level.

Learning outcomes: The student masters the techniques and methods of modeling distributed information systems.

Syllabus:

Theoretical part:

1. Client – server architecture and distributed architecture of information system (basic principles, layers of ISO / OSI architecture of distributed software components)
2. Multilayered architecture of software components (the application of an object method)
3. Managing the execution of transactions (processing the specific transaction, lock management, long transactions, database recovery)
4. Distributed Data Warehouse architecture (the specifics of the architectural design and query modeling)

Practical part:

Practical training – An application of the acquired theoretical knowledge on specific examples with the aim that students master techniques and methods of designing information systems while using the appropriate standard software environment for multi-layered architecture of information systems.

Literature:

1. George Coulouris, Jean Dollimore, Tim Kindberg, Gordon Blaire: "Distributed Systems: Concepts and Design", Addison Wesley, 2012 (izabrana poglavlja)
2. Ajay D. Kshemkalyani, Mukesh Singhal: "Distributed Computing, Principles, Algorithms, and Systems", Cambridge University Press, 2008 (izabrana poglavlja)
3. Starčević D., Distribuirani informacioni sistemi, CD sa predavanja, Fakultet organizacionih nauka, Beograd, 2003
4. Lazarević B., Marjanovic Z., Aničić N., Babarogić S., Baze podataka, Fakultet organizacionih nauka, Beograd, 2003

Total number of active classes: 90	**Lectures:** 45	**Practical classes:** 45

Teaching methods: Working with students during lectures, auditory and practical exercises. During lectures, in discussions and exchange of views, students are encouraged to think and work creatively.

Grading system (maximum 100 points)

grading scale from 5 to 10: below 51 points – student fails the exam, grade 6 from 51- 60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91- 100 points.

Pre-exam obligations:	**Points:**	**Final exam:**	**Points:**
Activity during theoretical lectures	max 5	Written exam	50
Practical training	max 5		
Written test(s)	max 25		
Term papers	max 15		
Minimum requirement for the final exam	30		