Tárgyleírás

Tárgy neve: Data models and databases Pr.

Tárgyfelelős neve: Kiss Attila Elemér

Tárgyfelelős tudományos fokozata: CSc

Tárgyfelelős MAB szerinti akkreditációs státusza: A

Az oktatás célja angolul / Aim of the subject:

Knowledge

- They have comprehensive and up-to-date knowledge and understanding of the general theories, contexts, facts, and the related concepts of database management systems.
- They have comprehensive and up-to-date knowledge of the principles, methods, and procedures for designing, developing, operating, and controlling IT processes in design, construction and management of databases in modern database management systems; the design, development and management of database systems.

Abilities:

- They are able to perform design, development, operation, and management tasks when operating database management systems.

Attitude:

- They are committed to having quality requirements met and to analysing them with IT tools.

Autonomy, responsibility:

- They take responsibility for their professional decisions made in their IT-related activities.
- They undertake to meet deadlines and to have deadlines met.

Az oktatás tartalma angolul / Major topics:

1. The relational data model
2. SQL, DML, DDL, PLSQL
3. E/R modeling
4. Normal forms
5. Data warehousing, security, transactions
6. XML databases, XQuery, XSLT
7. Semantic Web
8. Graph databases, Neo4J

9. Document store, MongoDB
10. Key-Value store, Redis
11. Column-oriented databases, HBase
12. Distributed databases

A számonkérés és értékelés rendszere angolul / Requirements and evaluation:

Practice grade.

Irodalom / Literature:

Hector Garcia-Molina, Jeffrey D. Ullman, Jennifer Widom : Database Systems: The Complete Book (2nd Edition)

Eric Redmond, Jim Wilson: Seven Databases in Seven Weeks: A Guide to Modern Databases and the NoSQL Movement

Gaurav Vaish: Getting Started with NoSQL

Shashank Tiwari: Professional NoSQL

M. Tamer Ozsu, Patrick Valduriez: Principles of Distributed Database Systems