

Course Syllabi

1. TICS-00036 DATABASES II: ADMINISTRATION AND OPTIMIZATION

2. 192 credits hours.

3. Bibliography

- Database System Concepts, Silberchatz A., Korth H., y Sudarshan S., 2019

4. Specific Course Information

a. The subject presents advanced concepts of databases. In particular, topics related to indexing, processing and optimization of queries, transactions and attendance, and different database architectures are studied.

b. Prerequisites:

- TICS-00035 DATABASES I: DESIGN AND PRINCIPLES

5. Learning Objectives of the Course

a. The objective of the course is to make the student understand the techniques of indexing, processing and optimization of queries, transactions and attendance applied to create efficient procedures and queries on a database engine.

- Apply techniques of optimization of queries based on how such queries are processed by the database manager
- Understand the importance of ACID properties of transactions
- Know and apply the concept of transaction and control of transactions in multi-user systems
- Know the different architectures of database systems

b. Learning Outcomes

- Identify and explain advanced principles in databases
- Understands the concept of transactions, identifies and explains their properties and states
- Understands the concept of transactions, identifies and explains their properties and states
- Knows and understands the different methods of access control and the type of security that can be implemented in the databases
- Know and know how to use object orientation in database
- Knows and understands the different methods of access control and the type of security that can be implemented in the databases
- Understands the concept of transactions, identifies and explains their properties and states
- Analyzes, designs and implements advanced-level database

6. Course Topics

- Introduction to the course
- Sql procedural and triggers
- Indexation
- Consultation processing
- Optimization of consultations
- Transactions
- Concurrence control
- Architectures
- Other database types

