

Faculty of Applied Sciences



INGI1271 Files and databases

[30h+30h exercises] 5 credits

This course is not taught in 2005-2006

This course is taught in the 2nd semester

Language: French

Level: First cycle

Aims

- To understand the main functions of a database-management system
- To understand the concepts and techniques underlying those functions
- To be able to represent in a database the information contents of an application domain
- To be able to implement a simple application involving database management (data structuring, and programming database queries and modifications)

Main themes

- Introduction to the entity-relationship model
- Bases of the relational model: data structures and algebra
- Logic-based relational languages to define and manipulate data
- Critical study of the SQL language
- Database application programming
- Functions and architecture of database-management systems
- Management of concurrent database accesses and associated techniques of recovery after failures

Content and teaching methods

see "Main themes"

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

- Prerequisites:

(1) INGI2101 Mathématiques discrètes: bases logiques de l'informatique A. van Lamsweerde

(2) LINF2121 Algorithmique et structures de données P. Dupont

- References:

(1) C. Date, "An Introduction to Database Systems", 7th Edition, Addison-Wesley, 2000

(2) R. Elmasri, S. Navathe, "Fundamentals of Database Systems", 4th Edition, Benjamin/Cummings, 2004

(3) H. Garcia-Molina, J. Ullman, J. Widom, "Database Systems: the Complete Book", Prentice Hall, 2002

(4) R. Ramakrishnan and J. Gehrke, "Database Management Systems", McGraw-Hill, 3rd Edition, 2003