Advanced databases

Lecturer
Esteban ZIMANYI (Coordinator)

Course mnemonic
INFO-H415

ECTS credits
5 credits

Language(s) of instruction
English

Course period
First term

Course content

Active databases. Temporal databases. Object-oriented databases. Deductive databases. XML databases.

Objectives (and/or specific learning outcomes)

The course introduces the concepts and techniques of some innovative database applications. In particular, the course covers (1) new technological developments, such as object-orientation and distribution, and (2) the management of new data types such as temporal or spatial data.

Pre-requisits and co-requisits

Courses having this one as co-requisit

INFO-F439 | Advanced Methods in Bioinformatics | 5 crédits , INFO-H419 | Data warehouses | 5 crédits and INFO-Y099 | Multicore programming | 6 crédits

Teaching method and learning activities

The theoretical courses are complemented by practical exercices realized on machine.

References, bibliography and recommended reading

C. Zaniolo et al., Advanced Database Systems, Morgan Kaufmann, 1997 R.T. Snodgrass, Developing Time-Oriented Database Applications in SQL, Morgan Kaufmann, 2000 R.G.G. Cattel et al., The Object Database Standard: ODMG 3.0, Morgan Kaufmann, 2000 P. Walmsley, XQuery, O'Reilly, 2007 J. Melton, A.R. Simon, SQL: 1999 - Understanding Relational Language Components, Morgan Kaufmann, 2001 J. Melton, Advanced SQL: 1999 - Understanding Object-Relational and Other Advanced Features, Morgan Kaufmann, 2002 J. Melton, S. Buxton, Querying XML: XQuery, XPath, and SQL/XML in context, Morgan Kaufmann, 2006

Evaluation method(s)

Other

Evaluation method(s) (additional information)

A written exam and a project to be realized by the students. The exam covers the different technologies viewed at the course.

Programmes

Programmes proposing this course at the Brussels School of Engineering

MA-IRIF | Master of science in Computer Science and Engineering | finalité Professional/unit 1, finalité Professional/unit 2 and finalité Big Data Management and Analytics (Erasmus Mundus)/unit 1

Programmes proposing this course at the faculty of Sciences

MA-BINF | Master in Bio-informatics and Modelling | finalité Research/unit 2, MA-GEOG | Master in Geography : General | finalité territorial Development/unit 2, MA-INFO | Master in Computer science | finalité Professional/unit 1 and finalité Professional/unit 2 and MA-SECU | Master in cybersecurity | finalité Erasmus Mundus joint master in Cybersecurity (CYBERUS)/unit 2