BUSINESS INTELLIGENCE AND BIG DATA ANALYTICS

- **Course code**

  8137

- **Type of course (compulsory, optional)**

  Elective (required for the "Information Systems and Technologies" specialization)

- **Level of course**

  N/A

- **Year of study**

  2013-2014

- **Semester**

  7th Semester

- **Number of credits allocated**

  6 ECTS Credits

- **Name of lecturer**

  Chatziantoniou Damianos, Assistant Professor

- **Learning outcomes**

  The usage of data in enterprise decision making has been identified as one of the most critical element for success in our data-driven society. The objective of the course is to present the theory and the techniques used in modern data analysis systems in a business context. This includes, architectures, algorithms, tools, applications and commercial systems.

- **Mode of delivery (face-to-face, distance learning)**

  Face-to-face

- **Prerequisites and co-requisites**

  N/A

- **Recommended optional programme components**

  Laboratory training on a well-known commercial BI system.

- **Course contents**

  - Advanced modern database topics: query processing, transaction processing, main-memory databases, column-oriented databases.
  - Business Intelligence: architecture, design and modelling of data warehouses, ETL, data cubes, OLAP, tools, systems.

- Data Mining: Architecture, the KDD process, classification, clustering, association rules, applications, systems.
- Large-scale data management: MapReduce, Hadoop and tools, NoSQL systems.
- Special Topics: Text analytics, data streams, data visualization, social media analytics.

- **Recommended or required reading**

📖 «Data Mining: Introductory and Advanced Topics», Margaret H. Dunham, Prentice Hall, 2003.

📖 «Εξόρυξη Γνώσης από Βάσεις Δεδομένων», Μ. Βαζιργιάννης και Μ. Χαλκίδη, Εκδόσεις Τηπωθήτω, 2003.

- **Planned learning activities and teaching methods**

  Traditional presentations and lectures, Invited speakers from the industry, labs to present specific commercial BI systems.

- **Assessment methods assessment methods and criteria**

  Written exam (50%), development of a large business intelligence project (50%).

- **Language of instruction**

  Greek

- **Work placement(s)**

  N/A. Organizations of the private and public sector that use data to drive business decision making. That includes telecommunication companies, manufacturing, financial and insurance institutions, marketing analysis firms, etc.