

## **Business Intelligence (ELMIM490)**

**Academic Year :** 2014 – 2015

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**Credits:** 5 ECTS

### **Learning Goals**

#### Knowledge and Scientific reasoning

At the end of the course, the student will be able to define the main concepts of BI, discuss their integration in a business performance management and study the impact of a BI system on the multiple levels of an organisation. At the end of the course, the student will be able

- To define the main concepts of BI
- To describe the classical architecture of a BI solution and discuss the main challenges to implement such a solution
- To discuss the success factors of a BI project
- To describe the various types of access to information supported by BI tools and their specificities
- And discuss their integration in a business performance management
- To discuss the impact of a BI system on the multiple levels of an organisation

Assessment: talks, abstracts and final exam

#### Written and oral communication

Through the involvement in a participative pedagogy, the student will learn to search for scientific information, to write a report and give a talk according to academic standard

Assessment: talks, abstracts and final exam

#### Project Management

Through the involvement in a participative pedagogy, the student will organise a scientific state of the art data collection, synthesis and presentation

Assessment: talks

### **Course Description**

Business Intelligence aims to transform abundant data stored in the systems of any organization in powerful decision support. The course covers the work from multiple points of view: technical aspects and components of computer systems BI, the impact of a BI system for the management of the organization, the management of a BI project and its success

factors ... The course also puts into perspective technical solutions such as ETL, Data Warehouse, Cloud, Big Data, ...

### Reference books

- *Business Intelligence, First European Summer School, eBISS 2011, Paris, France, July 2011, Tutorial Lectures, Marie-Aude Aufaure, Esteban Zimanyi (Eds), LNBIP 96, Springer.*
- *Business Intelligence, Second European Summer School, eBISS 2012 Bruxelles, Belgium, July 2012, Tutorial Lectures, Marie-Aude Aufaure, Esteban Zimanyi (Eds), LNBIP 138, Springer.*
- *Business Intelligence, Third European Summer School, eBISS 2013, Schloss Dagstuhl, Wadern, Germany, July 2013, Tutorial Lectures, Esteban Zimanyi (Ed), LNBIP 172, Springer.*
- *The Balanced Scorecard, Kaplan & Norton*
- *Performance Dashboards, Wayne Eckerson*
- *Key Performance Indicator, David Parmenter*
- *The BI roadmap, Moss & Atre*
- *Successful BI, Cindy Howson*
- *Data Warehouse Design, Golfarelli and Rizzi*
- *The Data Warehouse Toolkit; The Data Warehouse Lifecycle Toolkit; The ETL Toolkit, Kimball et al.*

News on web sites:

- Gartner : <http://www.gartner.com/>
- Forester : <http://www.forrester.com/>
- The data warehousing institute : [www.tdwi.org](http://www.tdwi.org)
- <http://www.teradatauniversitynetwork.com/tun/>

### Step-Wise topics:

1. Introduction to Business Intelligence
2. BI Life Cycle
3. BI Success factors
4. Balanced Scorecard
5. Dashboard
6. KPI
7. ETL
8. Data Warehouse Modelling
9. Data Warehouse Life cycle
10. Advance mining techniques : graph mining, sequences mining, social network analysis
11. Cloud, Service-Oriented architecture and Service-Oriented BI
12. Big Data Analytics and architecture

+ special lectures and industrial presentation:

1. data management and privacy
2. Scientific writing standard
3. ERP at Oodoo
4. BI at MicroStrategy
5. SAS data mining and BI tools
6. TBA

**Course material:**

Slides are available on the Webcampus platform

**Homework:**

Students will lead the overview of one of the topics and contribute to the lectures, they will write two abstracts (a short one and an extended one) on presented topics and realise an implementation of a BI platform. Specification of the assignments and evaluation criteria are available on the Webcampus platform

**Evaluation Components:**

The course grade will be based on the homework and oral presentations (20%), redaction of abstracts (15%), implementation of a BI platform (15%) and an oral individual final exam (50%)