

DTC-TEL-525 Business Intelligence

SEMESTER: Spring

CREDITS: 6 ECTS (4 hrs. per week: 3 Theory + 1 Lab, on average)

LANGUAGE: Spanish

DEGREES: 1-MIT

Course overview

This course is an introduction to information analysis techniques able to extract its implicit and explicit knowledge in an effective and efficient way that will help in the process of talking decisions. This goal will be reached by studying and applying the following topics:

- Preliminary data analysis. Separation of essential information from superfluous.
- Knowledge based systems. Process of knowledge acquisition, representation and inference.
- Knowledge uncertainty management.
- Machine learning from examples.

Prerequisites

- No prior knowledge is required for attending this course, but it is recommended some knowledge in statistics.

Course contents

Theory:

1. Introduction to business Intelligence
2. Multidimensional databases. Datawarehouse
3. Data mining. Data Exploration
4. Knowledge based Systems
5. Handling uncertainty in knowledge representation
6. Machine learning. Knowledge induction from examples.

Laboratory:

- Units 3, 4, 5 and 6 described previously have at least two associated lab practices in 2 hours sessions.

Textbooks

- M. Negnevitsky, Artificial Intelligence. A guide to Intelligent Systems. Ed. Addison Wesley, second edition 2005
- S. Russel, P. Norvig, Artificial Intelligence: A Modern Approach. Prentice Hall, third edition, 2010
- J. Han, M. Kamber. Data Mining: Concepts and Techniques. Elsevier, second edition 2006
- M.J. Zaki, W. Meira, Data Mining. Fundamental Concepts and Algorithms, first edition, 2014
- C. Imhoff, N. Galemno, J.G. Geiger. Mastering Data Warehouse Design. Relational and Dimensional Techniques, Wiley, first edition, 2003
- J. Boyer, B. Frank, B. Green, T. Harris, K. Vanter, Business Intelligence Strategy. A practical guide for achieving BI excellence, MC Press, first edition 2010

Grading

The following conditions must be accomplished to pass the course:

- A minimum overall grade of at least 5 over 10.
- A minimum grade in the final exam of 4 over 10.

The overall grade is obtained as follows:

- Final exam accounts for 50% of the final grade.
- Continuous evaluation and mid-term exam account for 15% of the grade
- Lab reports account for 35% of the grade.