Al-Imam Muhammad Ibn Saud Islamic University  
College of Computer and Information Sciences  
Information Systems Department

Syllabus –IS - 771: Selected Topics in Information Systems (Business Intelligence and Decision Support)

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**Course Description:**
Business intelligence is an umbrella term that combines architectures, tools, databases, analytical tools, applications and methodologies. The major objectives of business intelligence is to enable interactive access to data and to give business managers the ability to conduct analysis and make better decisions. Decision support systems are computer-based information systems that combine models/methods and data in an attempt to solve semi/non-structured decision problems with extensive user involvement through a friendly user interface. Business high-level decisions are often semi/non-structured and require an increased level of intelligent and technical support, in particular, when they become rich in data. Decision support systems can be integrated with variable business intelligence techniques to support related decision problem solving. The subject covers how to design, implement and integrate business intelligence techniques with methods to support business decision-making. The students will be made familiar with Data warehouse, OLAP, Data and Text Mining and data visualization in order to understand different component of Business Intelligence systems. In the end, students will present their own BI project thus enhancing their practical skill.

**Main Learning Objectives:**
1. Apply the concepts of decision making and modelling as a problem solving approach
2. Describe components of Business intelligent systems
3. Acquire the necessary skills to model the analytical requirements of business for OLAP purpose.
4. Learn the data and text mining techniques to discover information from business data
5. Apply intelligent systems and methodologies to decision making
6. Design and develop Business Intelligent systems for specific applications
Topics:

1) Theory: Basics about Decision Making.
   Changing business environment and computerized decision support. Managerial decision making.
   Practical: Making student understand Spreadsheet based DSS by simple tutorial and assignment

   Practical: Regression Tutorial: IBM versus HP. Google Finance
   Practical: Goal Seek and Scenario Understanding

3) Theory: The essentials of Business Intelligence (BI)
   Introduction and history of Business Intelligence
   Practical: Understanding Static and Dynamic Models

4) Theory: Components of Business Intelligence
   Practical: Understanding PowerPivot, Pivot Table, Pivot Chart

5) Theory: Data warehouse.
   Practical: Data Cleaning exercise

6) Theory: Modelling Data warehouse.
   Practical: Understanding star schema with Northwind database in Microsoft Access

7) Week 7: Midterm

8) Theory: OLAP operations.
   Practical: SAP HANA CO-PA Accelerator

9) Theory: ROLAP and OLAP
   Practical: Discussion of FoodMart2000 Database in Microsoft Access

10) Theory: Data Mining
    Practical: Understanding Market Basket Analysis in Microsoft Excel

11) Theory: Text Mining
    Practical: Project checking: Making a data warehouse

12) Theory: Data Visualization
    Dashboard, score cards

13) Preliminary Project Demo

14) Final Project Demo

15) Final Examination
Textbook and Resources:

Main Textbook:

Other Resources:
Imam University’s Blackboard will be used for out-of-class-room interaction with the students.

Project and Assignments

A Business intelligent system will be developed by group of students.

Evaluation

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