Course Syllabus
Business Intelligence and
CRM Technologies

August - December 2018

IX Semester

Professor

Rolando Gonzales

I. General characteristics

Name   : Business Intelligence CRM Technologies   Code :   06063
Requirement   : Planeación Estratégica   Semester : 2018 - II
Credits   : 03   Cycle :   IX

II. Summary

This course is a theoretical and practical course and its main purpose is to develop the necessary competences to contend in the business world with the essential capacities to evaluate the information systems related to Business Intelligence (BI) in the enterprise, in order to have an efficient system of BI, using all the data available, transform it to information and knowledge and in this way take the best decisions for the enterprise.

The course analyzes the all kinds of information, and the way by which it is received by the managers and executives, aggregating it in dashboards and scorecards. It is revised the definition of performance indicators, quality of data, advanced systems of report, multidimensional analysis, GIS, data mining, market segmentation, promotional efforts, and the ethical use of personal information and the associated risks.

III. Outcomes of the learning process

After finishing the course the student will be able to know, describe and comprehend all the concepts related with Business Intelligence, how to manage the internal and external information in order to take the best decisions for the company for the purpose of giving the best service to their customers, and obtain a good profitability. Additionally, it will be revised the best data bases for BI, taking special consideration for the Data Warehouse.

IV. Specific learning objetives

- Describe and comprehend what is Business Intelligence (BI).
- Describe and comprehend what is Data Warehouse and Data Base Administration
- Describe advanced Business Intelligence, Business Analytics and Data Visualization
- Describe and explain what is Data Mining and its main applications in the business world
- Explain Business Performance Management, Scorecards and Dashboards
- Have knowledge of complementary subjects of Business Intelligence: how to use it as a main tool of competence, how to measure BI and special studies about BI
- Apply specific techniques of Data Mining for Marketing and CRM (Customer Relationship Management)
- Apply Data Mining Tools to classify customers and segment the market
- Know ethical aspects of Business Intelligence and Information Systems

V. Methodology

The course encourage the active involvement of the student, and in this way the learning sessions will combine the teacher-provider presentations, with the analysis of the reading material, discussion of magazine articles, case study and presentations, and team working, beside others, in order to reinforce the learning process and develop the main competences necessary for develop and grow in the business world, as are the analytical capabilities, critic synthesis, problems solutions, and creative propositions, to manage the information for the purpose of taking the best decisions for the enterprise.

The teacher takes the position of educator and provider, and will motivate the group of students to discuss and interchange of ideas and knowledge of the specific aspect of the course that are studied.

Two text books are used, and its reading will have to be completed during the academic semester, besides some complementary reading material that will be given to the students. It is encourage that the students study and work each topic through individual and group exercises, working in the laboratory and doing critical analyses.

VI. Evaluation

The evaluation system is permanent and complete. The final grade of the course is obtained averaging the permanent evaluation (50%), the half semester examination (HSE) (25%) and the final semester examination (FSE) (25%).

The permanent evaluation is the weighted average of the different aspect of the whole process of learning: case analysis, qualified control of practices, critical analysis, research´s work, student´s participation in class, and student attendance.

The specific average of the permanent evaluation is obtained in the next way:

PERMANENT EVALUATION (PE) (50%)				
Kind of Evaluation	**Description**	**Weight %**		
Exercises	Several exercises	10		
Short case analysis	2 short cases	10		
Controls	2 controls	15		15
Cases	2 Cases	30		
Research Work	Final integrated work	20		

The averge grade (AG) is obtained in the next way:

$$\textbf{AG} = (0{,}25 \times HSE) + (0{,}50 \times PE) + (0{,}25 \times FSE)$$

VII. Specific subjects of the course by sessions

LEARNING

WEEK	SUBJECTS	ACTIVITIES / EVALUATION
1st August 20-25	**I.- GENERAL CHARACTERISTICS OF BUSINESS INTELLIGENCE (BI)** 1.1 Origins of Business Intelligence (BI) 1.2 Main characteristics of BI 1.3 Structure and components of BI 1.4 Business Intelligence now and in the future Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter S, p. 187-205 Information Technolgy for Management. Turban, Leidner, McLean &Wetherbe. Chapter 11, p. 427-473	General comments of the course and its form of evaluation
2nd August 27 to September 01	**II.- DATA WAREHOUSE AND DATA BASE MANAGEMENT** 2.1 Data Warehouse, definitions and concepts 2.2 The Data Base Administration 2.3 Data Warehouse architectures 2.4 La Data Warehouse in real time Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 5, p. 206-252 Information Technolgy for Management. Turban, Leidner, McLean &Wetherbe. Chapter 3, p. 78-117	
3rd September 03-08	**III.- BUSINESS ANALYTICS AND DATA VISUALIZATION** 3.1 The Business Analytics Field 3.2 Online Analytical Processing (OLAP) 3.3 Reports and Queries 3.4 Multidimensionality Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 6, p. 253-301	
4th September 10-15	**IV.- BUSINESS ANALYTICS AND DATA VISUALIZATION** 4.1 Advanced Business Analytics 4.2 Geographic Information Systems (GIS) 4.3 Implementation of BA and success factors 4.4 Data Visualization Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 6, p. 253-301	**Short Case No 1**
5th September 17-22	**V.- DATA MINING (DM)** 5.1 Data Mining definition, objetives and benefits 5.2 Methods and applications of DM 5.3 Text and Web DM Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 7, p. 302-342	**Control No 1**
6th September 24-29	**VI.- BUSINESS PERFORMANCE MANAGEMENT, SCORECARDS AND DASHBOARDS** 6.1 Business Performance Management Overview 6.2 Strategize: Where Do we want to go? 6.3 Plan: How we get there? 6.4 Act and adjust: What Do we need to do differently? Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 9, p. 383-430	**Case No 1 presentation**
7th October 01-06	**HALF SEMESTER EXAMINATION**	

8 th *October 08-13*		5
9th *October 15-20*	**IX.- BUSINESS INTELLIGENCE AS A MAIN TOOL OF COMPETENCE** 9.1 The nature of Analytical Competence 9.2 Define what makes an analytical competitor 9.3 Business Analytics Business Performance 9.4 The future of Analytical Competence	
	Competing on Analytics- Davenport & Harris. Chapter 1,2 y 3, p. 3-56	
10th *October 22-27*	**X.- KNOWLEDGE MANAGEMENT SYSTEMS (KMS)** 10.1 Introduction to Knowledge Management 10.2 Organizational Learning and Memory 10.3 Knowledge Management Activities 10.4 Approaches to Knowledge Management	**Short Case No 2**
	Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 11, p. 478-530 Information Technolgy for Management. Turban, Leidner, McLean &Wetherbe. Chapter 10, p. 388-426	
11th *October 29 to November 03*	**XI.- KNOWLEDGE MANAGEMENT SYSTEMS (KMS)** 11.1 Information Technology in Knowledge Management 11.2 Knowledge Management Systems Implementation 11.3 Roles of People in Knowledge Management 11.4 Ensuring Success of KM Efforts	
	Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 11, p. 478-530 Information Technolgy for Management. Turban, Leidner, McLean &Wetherbe. Chapter 10, p. 388-426	
12 th *November 05-10*	**XII- DATA MINING APPLICATIOS IN MARKETING AND CRM (CUSTOMER RELATIONSHIP MANAGEMENT)** 12.1 Prospecting 12.2 Data Mining to Choose the Right Place to Advertise 12.3 Data Mining to improve Direct Marketing Campaigns 12.4 Using current customers to learn about prospects	**Control No 2**
	Data Mining Techniques. Berry &Linoff. Chapter 4, p. 87-122	
13th *November 12-17*	**XIII- DATA MINING APPLICATIOS IN MARKETING AND CRM (CUSTOMER RELATIONSHIP MANAGEMENT)** 13.1 Data Mining for Customer Relationship Management 13.2 Retention and Churn	**Case No 2 presentation**
	Data Mining Techniques. Berry &Linoff. Chapter 4, p. 87-122	
14th *November 19-24*	**XIV- NEURONAL NETWORKS AND DECISION TREES** 14.1 Neuronal networks (NN) and their different kinds 14.2 Business applications of NN 14.3 Decision trees and its use in classification problems	**Final work delivery**
	Decision Support and Business Ingelligence, Turban, Aronson, Liang &Sharda. Chapter 8, p. 343-382 Data MiningTechniques. Berry &Linoff. Chapter 6, p. 165-210	
15th *November 26 to December 01*	**FINAL SEMESTER EXAMINATION**	

16th *December 03-08*			6

VIII. References

Text Books

A- Sharda, R., Delen, D. y Turban, E. (2017). *Business Intelligence, A Managerial Perspective on Analytics. Fourth Edition. Boston: Pearson.*

B- Berry, M. y Linoff, G. (2004). *Data Mining Techniques. For Marketing, Sales and Customer Relationship Management.* Indianapolis: Wiley Publishing Inc.

Additional books

1. Davenport, T. y Harris, J. (2017). *Competing on Analytics. The New Science of Winning. Boston:* Harvard Business School Press. Updated edition.

2. Turban, E., y Volonino, L. (2011). *Information Technology for Management, Improving Strategic and Operational Performance.* United States of America: John Wiley & Sons, Inc.

3. Laudon, K. y Laudon, J. (2017). *Management Information Systems. Fifteenth Edition.* Boston: Prentice Hall.

4. Hoffer, J.A., Venkataraman, R. (2012*). Modern Database Management.* Eleventh Edition. Pearson.

IX. Professor

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