



UNIVERSIDAD
esan

Sílabo del curso Business Intelligence and CMR Technologies

Marzo - Julio 2019

IX Semester

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I. General characteristics

Name of the course:	Business Intelligence CRM Technologies		
Pre-requisite:	Planeación Estratégica	Code:	06063
Previous:	No tiene	Semester:	2019-1
Credits:	3	Cicle:	
Hours per week:	3	Method:	Classroom teaching
Type of course Career(s)	Obligatory Course Administración y Marketing	Course's coordinator:	Yolanda Valle V. yvalle@esan.edu.pe

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 objectives

At the end of the course the student:

- 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	30
Cases	2 Cases	30
Research Work	Final integrated work	20

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

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

VII. Specific subjects of the course by sessions

SEMANA	CONTENIDOS	ACTIVIDADES / EVALUACIÓN
<p>LEARNING UNIT I: GENERAL CHARACTERISTICS OF BUSINESS INTELLIGENCE (BI) AND DATA WAREHOUSE (DW)</p> <p>LEARNING OBJECTIVES:</p> <ul style="list-style-type: none"> • Describe and comprehend what is BI • Describe and comprehend what is DW and Database administration • Describe advanced BI, Business Analytics and Data Visualization 		
<p>1° Del 21 de marzo al 30 de marzo</p>	<p>1.1 GENERAL CHARACTERISTICS OF BUSINESS INTELLIGENCE (BI)</p> <p>1.1.1 Origins of Business Intelligence (BI)</p> <p>1.1.2 Main characteristics of BI</p> <p>1.1.3 Structure and components of BI</p> <p>1.1.4 Business Intelligence now and in the future</p> <p>Lectura obligatoria Business Intelligence, Analytics & Data Science. Sharda Delen & Turban. Chapter 3, p. 127-188 Information Technology for Management. Turban, Leidner, McLean & Wetherbe. Chapter 3, p. 78-117</p>	<p>General comments of the course and its evaluation; exercises: promotion with rules: recent – frequent and total amount</p>
<p>2° Del 01 al 06 de abril</p>	<p>1.2 DATA WAREHOUSE AND DATA BASE MANAGEMENT</p> <p>1.2.1 Data Warehouse, definitions and concepts</p> <p>1.2.2 The Data Base Administration</p> <p>1.2.3 Data Warehouse architectures</p> <p>1.2.4 La Data Warehouse in real time</p> <p>Lectura obligatoria Business Intelligence, Analytics & Data Science. Sharda Delen & Turban. Chapter 3, p. 127-188 Information Technology for Management. Turban, Leidner, McLean & Wetherbe. Chapter 3, p. 78-117</p>	<p>Exercises with Regression</p>
<p>3° Del 08 al 13 de abril</p>	<p>1.3 BUSINESS ANALYTICS AND DATA VISUALIZATION</p> <p>1.3.1 The Business Analytics Field</p> <p>1.3.2 Online Analytical Processing (OLAP)</p> <p>1.3.3 Reports and Queries</p> <p>1.3.4 Multidimensionality</p> <p>Lectura obligatoria Business Intelligence, Analytics & Data Science. Sharda Delen & Turban. Chapter 2, p. 53-100</p>	<p>Exercises with Classification Trees</p>
<p>4° Del 15 al 20 de abril (Feriado 18,19 y 20 de abril)</p>	<p>1.4 BUSINESS ANALYTICS AND DATA VISUALIZATION</p> <p>1.4.1 Advanced Business Analytics</p> <p>1.4.2 Geographic Information Systems (GIS)</p> <p>1.4.3 Implementation of BA and success factors</p> <p>1.4.4 Data Visualization</p> <p>Lectura obligatoria Business Intelligence, Analytics & Data Science. Sharda Delen & Turban. Chapter 2, p. 101-126</p>	<p>Short Case No 1</p>
<p>LEARNING UNIT II: DATA MINING AND BUSINESS PERFORMANCE MANAGEMENT</p> <p>LEARNING OBJECTIVES:</p> <ul style="list-style-type: none"> • Describe and explain what is Data Mining and its main applications in the business world • Explain Business Performance Management, Scorecards and Dashboards de decisiones. 		

<p>5° Del 22 al 27 de abril</p>	<p>2.1 DATA MINING (DM) 2.1.1 Data Mining definition, objectives and benefits 2.1.2 Methods and applications of DM 2.1.3 Text and Web DM</p>	<p>Control No 1 Points 1.1 to 4.4</p>
<p>Lectura obligatoria Business Intelligence, Analytics & Data Science. Sharda Delen & Turban. Chapter 4, p. 189-246</p>		
<p>6° Del 29 de abril al 04 de mayo</p>	<p>2.2 BUSINESS PERFORMANCE MANAGEMENT, SCORECARDS AND DASHBOARDS 2.2.1 Business Performance Management Overview 2.2.2 Strategize: Where Do we want to go? 2.2.3 Plan: How we get there? 2.2.4 Act and adjust: What Do we need to do differently?</p>	<p>Case No 1 presentation</p>
<p>Lectura obligatoria Decision Support and Business Intelligence, Turban, Aronson, Liang & Sharda. Chapter 9, p. 383-430</p>		
<p>7° Del 06 al 11 de mayo</p>	<p>HALF SEMESTER EXAMINATION</p>	<p>Actividad Role Playing N° 4 Repaso de Examen Parcial</p>
<p>8° Del 13 al 18 de mayo</p>	<p>PARTIAL EXAMS</p>	
<p>9° Del 20 al 25 de mayo</p>	<p>2.3 BUSINESS INTELLIGENCE AS A MAIN TOOL OF COMPETENCE 2.3.1 The nature of Analytical Competence 2.3.2 Define what makes an analytical competitor 2.3.3 Business Analytics Business Performance 2.3.4 The future of Analytical Competence</p>	<p>Exercises with Neural Networks</p>
<p>Lectura obligatoria Competing on Analytics- Davenport & Harris. Chapter 1,2 y 3, p. 3-56</p>		
<p>LEARNING UNIT III: KNOWLEDGE MANAGEMENT (KM) LEARNING OBJETIVES:</p> <ul style="list-style-type: none"> • Describe what is Knowledge Management • Describe the main methodologies of KM and types of knowledge 		
<p>10° Del 27 de mayo al 01 de junio</p>	<p>3.1 KNOWLEDGE MANAGEMENT SYSTEMS (KMS) 3.1.1 Introduction to Knowledge Management 3.1.2 Organizational Learning and Memory 3.1.3 Knowledge Management Activities 3.1.4 Approaches to Knowledge Management</p>	<p>Short Case No 2</p>
<p>Lectura obligatoria Decision Support and Business Intelligence, Turban, Aronson, Liang & Sharda. Chapter 11, p. 478-530 Information Technology for Management. Turban, Leidner, McLean & Wetherbe. Chapter 10, p. 388-426</p>		

<p>11° Del 03 al 08 de junio</p>	<p>3.2 KNOWLEDGE MANAGEMENT SYSTEMS (KMS) 3.2.1 Information Technology in Knowledge Management 3.2.2 Knowledge Management Systems Implementation 3.2.3 Roles of People in Knowledge Management 3.2.4 Ensuring Success of KM Efforts</p> <p>Lectura obligatoria Decision Support and Business Intelligence, Turban, Aronson, Liang & Sharda. Chapter 11, p. 478-530 Information Technology for Management. Turban, Leidner, McLean & Wetherbe. Chapter 10, p. 388-426</p>	<p>Exercises with Cluster Analysis</p>
<p>LEARNING UNIT IV: MAIN APPLICATIONS OF BUSINESS INTELLIGENCE LEARNING OBJETIVES:</p> <ul style="list-style-type: none"> • Apply specific techniques of Data Mining for Marketing and CRM • Use other data mining algorithms for other areas of business • Know ethical aspects of BI and Information Systems 		
<p>12° Del 10 al 15 de junio</p>	<p>4.1 DATA MINING APPLICATIOIS IN MARKETING AND CRM (CUSTOMER RELATIONSHIP MANAGEMENT) 4.1.1 Prospecting 4.1.2 Data Mining to Choose the Right Place to Advertise 4.1.3 Data Mining to improve Direct Marketing Campaigns 4.1.4 Using current customers to learn about prospects</p> <p>Lectura obligatoria Data Mining Techniques. Berry & Linoff. Chapter 4, p. 87-122</p>	<p>Control No 2 Points 9.1 to 11.4</p>
<p>13° Del 17 al 22 de junio</p>	<p>4.2 DATA MINING APPLICATIOIS IN MARKETING AND CRM (CUSTOMER RELATIONSHIP MANAGEMENT) 4.2.1 Data Mining for Customer Relationship Management 4.2.2 Retention and Churn</p> <p>Lectura obligatoria Data Mining Techniques. Berry & Linoff. Chapter 4, p. 87-122</p>	<p>Case No 2 presentation</p>
<p>14° Del 24 al 29 de junio</p>	<p>4.3 NEURONAL NETWORKS AND DECISION TREES 4.3.1 Neuronal networks (NN) and their different kinds 4.3.2 Business applications of NN 4.3.3 Decision trees and its use in classification problems</p> <p>Lectura obligatoria Decision Support and Business Intelligence, Turban, Aronson, Liang & Sharda. Chapter 8, p. 343-382 Data MiningTechniques. Berry & Linoff. Chapter 6, p. 165-210</p>	<p>Final work delivery</p>
<p>15° Del 01 al 06 de julio</p>	<p>FINAL SEMESTER EXAMINATION</p>	
<p>16° Del 08 al 13 de julio</p>	<p>FINAL EXAMS</p>	

VIII. References

Basic Bibliography:

- Sharda, R., Delen, D. y Turban, E. (2017). *Business Intelligence, a Managerial Perspective on Analytics. Fourth Edition. Boston: Pearson.*
- Berry, M. y Linoff, G. (2004). *Data Mining Techniques. For Marketing, Sales and Customer Relationship Management.* Indianapolis: Wiley Publishing Inc.
- Turban, E., Aronson, J., Liang, T-P., and Sharda, R (2007). *Decision Support Systems and Business Intelligence Systems.* 8th Edition, Pearson Prentice-Hall.

Further reading:

- Davenport, T. y Harris, J. (2017). *Competing on Analytics. The New Science of Winning.* Boston: Harvard Business School Press. Updated edition.
- Turban, E., y Volonino, L. (2011). *Information Technology for Management, Improving Strategic and Operational Performance.* United States of America: John Wiley & Sons, Inc.
- Laudon, K. y Laudon, J. (2017). *Management Information Systems. Fifteenth Edition.* Boston: Prentice Hall.
- Hoffer, J.A., Venkataraman, R. (2012). *Modern Database Management.* Eleventh Edition. Pearson.
- Lemahieu, W., Vanden Broucke, S., y Baesens, B. (2018). *Principles of Database Management.* Great Britain: Cambridge University Press.

Cases

- Research and Pedagogy in Business Analytics: Opportunities and Illustrative Examples (2013). Sharda, Asamoah & Ponna. *Journal of Computing and Information Technology.*
- The Business Case for Analytics (2013). Watson. BizED Magazine.

IX. Laboratory support

No requiere

X. Professor

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