Program: MBA, Technology Management Concentration

Course Name: e-Business	Course Code: SI501

Location in the curricular map : Technology Management Concentration

Course Description: This course develops the basics aspects of e-business and the main elements for technology infrastructure, marketing and adequate security. The student will be able to do a business plan via the web.

General learning outcomes: The student acquires the basic knowledge and the necessary skills to understand and get involved int the e-business field.

Thematic Content

Theme and sub-themes of each unit:	Hours

1. Basic Concepts
  1.1 Definition
  1.2 Characteristics
  1.3 Given conditions to develop an e-business
  1.4 The role of the www
  1.5 The chain value on e-business
  1.6 Why the web is good for doing business?
	2

2. Technological infrastructure
  2.1 Webs
  2.2 Internet protocols.
  2.3 Internet utilitarian programs
  2.4 Internet applications
  2.5 Lenguages for the web
  2.6 Clients and "Web" servers
  2.7 "Internet", "intranets" y "extranet".
  2.8 Hardware, and software web requirements
  2.9 Connections options to Internet
	4

3. Software and hardware for Electronic Commerce
  3.1 Performance evaluation of the web servers (hardware)
  3.2 Web servers desirable characteristics
	6

3.3 Web servers (software).
3.4 Web servers, tools and architecture
3.5 Software basic elements of electronic commerce.
3.6 Electronic commerce, host services.
3.7 Basic, médium and large size packages for electronic commerce
3.8 Business solutions for electronic commerce: CRM, SCM y CMS.

4

4. **Presence in the Web and access models.**
    4.1 Access models used for sales via Web
    4.2 The catalogue model in thel Web.
    4.3 Creation of an effective appearance in the Web
    4.4 How to establish communication with clients

6

5. **Marketing in the Web.**
    5.1 Marketing strategies in the Web.
    5.2 Communiiation with different market segments
    5.3 Market segmentation
    5.4 Client behavior and grade of intensity of this relationship
    5.5 Advertising in the Web.
    5.6 Marketing through e-mail
    5.7 Management of the relationship with the clients
    5.8 Creation and maintenance of a brand in the Web
    5.9 Actual standing of the search engines
    5.10 Names for domains.

4

6. **Security threats for electrónic commerce and protection strategies**
    6.1 Security systems for electronic commerce
    6.2 Threats for copyright property
    6.3 Risks on computers and servers
    6.4 Threats to electronic trade
    6.5 Protection mechanisms to copyright property
    6.6 Protection mechanisms for computers and servers

4

7. **Electronic payment systems.**
    7.1 Types of electronic payments
    7.2 ATM cards, electronic bills, electronic portfolios, storage value cards
    7.3 Implementation of payment systems
    7.4 Protection protocols for credit card transactions, SET
    7.5 Confidentiality, integrity and legitimacy

6

8. **Electronic trade planning.**
    8.1 Planning of an electronic commerce project

		8.2 Development strategies for web sites 8.3 Implementations management for electronic commerce	

Learning activities:

• **In class activities:** - Presentations in class by the instructor - Case discussion - Guest speakers - Presentation of end of semester projects by the students	**36**
• **Student independent activities:** - Previous readings - Homeworks - Exercises and practices - Research projects	**60**

Criteria and procedure of evaluation:
- Final test
- Homeworks and research projects
- Final research project
- Participation

Bibliography

	Type	Title	Author	Editorial	Year
1	Reference	Launching a Business on the Web	David Cook Deborah Sellers	QUE Co.	1995
2	Reference	Negocios en ambientes computacionales	Donadío, Dieck, García, Lankenau, Valdés	McGraw-Hill	2004
3	Reference	Electronic Commerce	Gary P. Scheneider	Thomson	4ª Ed.
4	Reference	Comercio electrónico	Rob Smith, Mark Speaker, Mark Thompson	Prentice Hall	1ª Ed. 2001
5	Reference	eCommerce	Robert Plant	Prentice Hall	2001
6	Reference	Negocios rentables a través de internet (Net Gain)	John Hagel III Arthur G. Armstrong	Paidós	1999

Programa: MBA, Technology Management Concentration

Course Name:	Course Code:
Technology Management	SI502

Location in the curricular map:
Technology Management concentration

Course description:
This course describes the main topics of the information technology field with focus on management, providing technical and practical elements to obtain information systems that will provide support for the students.

General learning outcomes:
The student will understand the impact and the benefits of the existance of information systems in a company, he/she will have the foundation and tools for strategic plan design and for the optimum use of technology in organizations.

Thematic Content

Themes and sub-themes of each unit:	Hours

1. **The information era.**
   1.1 Information systems for business
   1.2 Information systems strategic use
   1.3 Information systems in business
	6

2. **Information Technology.**
   2.1 Information Technology in business: hardware.
   2.2 Information Technology in business: software.
   2.3 Information Technology in business: webs and tele-communications
   2.4 Internet, intranets and extranets.
   2.5 Data and knowledege management
	10

3. Information technology in administration.
   3.1 Information requirements for administrators
   3.2 Organization of service and information systems.
3.3   International and inner-business information systems
3.4
	10

4. Planning, acquisition and control.
   4.1 Information systems planning
   4.2 Development of systems
   4.3 Systems acquisition alternatives
   4.4 Control and security measures
	10

Learning Activities:	

• **In class activities:**
  - Presentations in class by the instructor
  - Case discussion
  - Guest speakers
  - Presentation of end of semester projects by the students
	36

• **Student independent activities:**
  - Previous readings
  - Homeworks
  - Exercises and practices
  - Research projects
	60

Criteria and procedure of evaluation:
- Final test
- Homeworks and research projects
- Final research project
- Participation

Bibliography

	Type	Title	Author	Editorial	Year
1	Text book	Information Systems administration	Effy Oz	Thomson	2ª Ed. 2002
2	Reference book	Using Information Technology	Sawyer / Williams	McGraw-Hill	4ª Ed. 2001
3	Reference book	Database: Design, development & deployment	Rob / Semaa	McGraw-Hill	2ª Ed. 2001
4	Reference book	IT Today		McGraw-Hill	2001

Program: MBA, Technology Management concentration

Course name:	Course code:
Internet Development Strategies	**SI503**

Location in the curricular map:
Technology Management concentration

Course description:
This course covers the strategic, technological, economic, legal and finantial aspects of electronic businesses, through an integral focus that analyzes the fundamental elements for the development of internet strategies

General learning outcomes:
That student will learn and apply the necessary elements to analyze and develop successful strategies for electronic business.

Thematic Content

Themes and sub-themes of each unit:	Horas
5. **Strategies and industries of electronic business.** 5.1 The concept of strategy 5.2 Industries and business transformations 5.3 Analysis methologies of chain values. 5.4 Web economies and the creation of web communities 5.5 Electronic business models 5.6 Creation of new markets: value proposals 5.7 Penetrating the electronic markets 5.8 Collection and use of clients information 5.9 Measuring the strategy effectiveness	8
6. **B2B Strategies, EDI, Auctions, Portals and Virtual Communities.** 6.1 Purchasing, logistic and support activities 6.2 Web models for economic organizations	12

6.3 Generic frame: B2B, B2C, B2E. 6.4 Data electronic Exchange (EDI). 6.5 Supply chain administration (SCM). 6.6 Inner-business supply process 6.7 The chain of supply process 6.8 Portals and electronic markets 6.9 Auctions, types and strategies 6.10 Portals and virtual communities strategies	**8**
7. Economic and legal aspects. 7.1 Economy of information goods. 7.2 Economic aspects of electronic trade 7.3 Legal environment. 7.4 Privacy and legal aspects in the internet. 7.5 Taxes and regulations in the internet. 7.6 Ethic aspects	**8**
8. Finantial aspects and business plan development. 8.1 Finantial indicators of internet business 8.2 Flow in electronic business 8.3 Creation of different settings 8.4 Venture Capital operation. 8.5 Financing stages 8.6 Elements of a business plan 8.7 Team organization 8.8 Organización of the Director's Board 8.9 Projects presentations	

Learning activities: • **In class activities:** - Presentations in class by the instructor - Case discussion - Guest speakers - Presentation of end of semester projects by the students	**36**
• **Student independent activities:** - Previous readings - Homeworks - Exercises and practices - Research projects	**60**

Criterios y procedimientos de evaluación:

- Final test
- Homeworks and research projects
- Final research project
- Participation

Bibliography

	Type	Title	Author	Editorial	Year
1	Reference book	Electronic commerce: A Manager´s Guide	Ravi, Kalakota & Whinston, Andrew	Addison Wesley	1ª Ed.
2	Reference book	Cyber-Rules. Estrategias para destacar en el e-Business	Thomas M. Siebel	Granica	2000
3	Reference book	Los negocios en Internet, hoy y en México	Carlos Buentrostro, Javier Cuervo, Fernando Gutiérrez, Alfonso Rosado	McGRaw-Hill	1997
4	Reference book	Leyes y negocios en Internet	Oliver Hance	McGraw-Hill	1996
5	Reference book	Marketing on the internet	Zimmerman, J., Mathiesen, M	Maximum press	3ª Ed.
6	Reference book	Secretos del comercio electrónico: guía para pequeños y medianos exportadores	Bancomext	Bancomext	2001

Programa: MBA, Technology Management concentration

Course name: Administration support systems	Course code: SI504

Location in the curricular map: Technology Management concentration

Course description:

This course analyzes the support systems for a business administration, as a group of applications to optimize finantial, physical and human resources, drived toward a adequate decision making process.

General learning outcomes:
To provide the student the necessary knowledge with strategic information at global level, and to generate competitive advantages in the organization.

Thematic Content

Themes and sub-themes of each unit:	Hours
1. Introduction to Information Systems. 1.1 Introduction 1.2 Information Systems development 1.3 Elements of an information system 1.4 Knowleege management (KM)	**8**
2. Support systems for decision making (DSS o SIATD). 2.1 Support system for decision making 2.2 Elements of a support system for decision making 2.3 Support system characteristics for decision making 2.4 Management or executive information systems 2.5 Balanced Scorecard (BS).	**10**
3. Use of technology for business transformation. 3.1 Informtion technology industry 3.2 Careers in the information technology industry	**8**
4. Information Systems Management. 4.1 Basic structure of an information system 4.2 Designation of authority 4.3 Centralized administration 4.4 Decentralized administration 4.5 Coordinated administration 4.6 Administration style 4.7 Characteristics of administrators 4.8 Maintenance 4.9 Security 4.10 Evaluation	**10**

Learning Activities:	

		36

• **In class activities:**
   - Presentations in class by the instructor
   - Case discussion
   - Guest speakers
   - Presentation of end of semester projects by the students
		36

• **Student independent activities:**
   - Previous readings
   - Homeworks
   - Exercises and practices
   - Research projects
		60

Criteria and procedure of evaluation:
- Final test
- Homeworks and research projects
- Final research project
- Participation

Bibliography

	Type	Title	Author	Editorial	Year
1	Reference book	Managment Information Systems	Post	Mcgraw-Hill	3ª Ed. 2003
2	Reference book	Systems Analysis and Design Methods	Whitten / Bentley	McGraw-Hill	2001
3	Reference book	Information Technology and Management	Celts / Baril / Thompson	McGraw-Hill	2000
4	Reference book	Administración de Sistemas de Información	Effy Oz	Thomson	2ª Ed. 2001
5	Reference book	Sistemas de información para la toma de decisiones	Daniel Cohen	McGraw-Hill	1996
6	Reference book	Management Information Systems	Kroenk y Hatch	McGraw-Hill	1994
7	Reference book	Decisión Support Systems	Spragne y Watson	Prentice may	1993

Program: MBA, Technology Management concentration

Course name:	Course code:
e-Business operations	SI505

Location in the curricular map:
Technology management concentration

Course description:
This course provides themes for dicuion drived toward an e-strategic leadership, from the starting point of analyzing the electronic trade contributions to the economic processes, and the trends and strategies that are useful for strenghtening this leadership.

General learning outcomes:
Students will analyze and understand the importance of incorporate the various alternatives of electronic trade to a company, as a tool the improve its competitive advantage in global markets.

Thematic Content

Themes and sub-themes of each unit:	Hours
9. The economy of electronic commerce 9.1 Product design 9.2 Electronic acquisitions 9.3 Invontory follow-up 9.4 Inventory reduction 9.5 Logistic planning and improvement	8
10. e-strategic leadership. 10.1 Internal technological leadership 10.2 Service value chain in the Internet.	6
11. Strategies by market segment. 11.1 Manufacturing 11.2 Goods and services mix organizations 11.3 Service organizations 11.4 e-Government	6
12. e-brandig: emerging of new global brands. 12.1 Brand creation 12.2 Brand follow-up 12.3 Brand reinforcement 12.4 Brand repositioning	6

13. **Design of an Internet strategy.** 13.1 Where to create an e-*Commerce system*.	**6**
14. **Future trends.** 14.1 A lean *e-Commerce* organization 14.2 Technological change 14.3 Brand changes 14.4 Markets changes 14.5 Changes in external relationships 14.6 Political changes	**4**

Learning Activities:	

• **In class activities:**
  - Presentations in class by the instructor
  - Case discussion
  - Guest speakers
  - Presentation of end of semester projects by the students
	36

• **Student independent activities:**
  - Previous readings
  - Homeworks
  - Exercises and practices
  - Research projects
  .
	60

Criteria and procedure of evaluation:
- Final test
- Homeworks and research projects
- Final research project
- Participation

Bibliography

	Type	Títle	Author	Editorial	Year
1	Reference book	eCommerce	Robert Plant	Prentice Hall	2001
2	Reference book	Comercio electrónico	Rob Smith, Mark Speaker, Mark Thompson	Prentice Hall	1ª Ed. 2001
3	Reference book	El monje y el acertijo: lecciones	Randy Komisar Kent Lineback	Oxford	2001

		para un empresario en la era del comercio electrónico			

Course name:	Course ID:
Statistics for Decision Taking	**MA500**

Placement in curricular map:
Common Ed

Course characteristics:
This course covers the study of statistic procedures through computer examples as well as the use of specialized programs. The emphasis is found in the understanding of the selection of an appropriate and logic terminology.

General learning objectives:
Students will understand the required statistic processes to achieve the connections with the corresponding analysis and research intended.

Contents

Topics and subtopics of the unit:	Hours
1. Data management: Tables and graphics. Frequency distribution.	**2**
2. Measures of central tendency and dispersion in frequency distribution. Central tendency measures. Arithmetic mean. Heavy mean. Geometric mean. Median. Mode. Dispersion.	**4**

Average deviation measures. Variation coefficient.	
3. Probability. Basic concepts, types and rules. Probability under statistic independence conditions. Probability under statistic dependence. Bayes' Theorem. Distributions. Hazard variables. Use of expected values. Binomial distribution. Posson's distribution. Normal distribution.	4
4. Sampling and sampling distribution. Random sampling. Experiment design. Sampling distributions.	4
5. Estimate. Point estimate. Interval estimate. Determination of the sampling size in estimate.	4
6. Hypothesis proof. Basic concepts. Power measure of a hypothesis proof.	2
7. Chi-squared and variance analysis.	2
8. Simple regression and correlation. Estimate through correlation line. Correlation analysis. Regression use and correlation analysis.	4
9. Multiple regression and modeling techniques. Multiple regression and correlation analysis. Computer and multiple regressions. Modeling techniques.	4
10. Time series. Time series variation. Tendency analysis. Cyclic variation.	2

Temporal variation. Irregular variation. Analysis of time series in predictions.	
11. Index numbers. Definition, types. Relative average methods. Quantity and value indexes.	**2**

12. Decisions theory.
      Decisions environment.
      Expected profit in uncertainty conditions: Assigning
      probability values.
      Use of continuous distributions: Marginal analysis.
      Utility as decision criteria.
      Analysis of decisions tree.
	2

Learning activities:
 	
• **Classroom activities:**
  - Presentation of topic by instructor.
  - Case discussions.
  - Invited Lecturers.
  - Presentation of final project by students.
	36

• **Independent activities by students:**
  - Previous readings.
  - Assignments.
  - Exercises and practice.
  -     Research projects.
	60

Assessment criteria and procedures:
- Final exam
- Research assignments
- Final project
- Participation

Bibliography

	Type	Title	Author	Publisher	Year
1	Book	Statistics for Managers	Richard I. Levin Dan S. Rubin	Prentice Hall	6ª Ed. 1996
2	Reference	Basic statistics. Tools for continuous		Air Academy	4ª Ed. 1999

		improvement		Press	
3	Reference	Statistics for Management and Economy	Robert D. Mason Douglas A. Lind	Alfaomega	8ª Ed. 1998
4	Reference	Statistical Methods for de Social Sciences	Alan Agresti Barbara Finlay	Prentice Hall	3ª Ed. 1997
5	Reference	Statistics: Informed decisions using data	Michael Sullivan	Prentice Hall	1ª Ed. 2004
6	Reference	Statistics for business and economics	John A. Ingram Joseph G. Monks	Harcourt Brace Jovanovich Publishers	1989
7	Reference	Basic Elements of Entrepreneurial and Economical Statistics	A.M. Montiel F. Rius F. J. Barón	Prentice Hall	1997

Program: MBA, Technology Management concentration

Course name: Data Bases for decisión making	Course code: **SI505**

Location in the curricular map: Technology management concentration

Course description: During this course, students will design, implement and use a special data base to support the decision making process in the modern organization business context. They will study in depth and experiment dimensional data bases systems. The same way, they will study and experiment with data bases systems related to SQL language, as a fundamental tool of implementation for this type of systems.

General learning outcomes: At the completion of this course, the student: • Will understand the decision making process, and its applications in problem solving. • Will know the different support information systems in administration • Will know and understand the OLTP and OLAP information systems and all concepts related to these systems. • Will know and understand the dimensional data base model. • Will know and understand the data base model related to the SQL language. • Will know and understand the design process of dimensional data bases • Will know and understand a special type of information system known as "Decision Making Support System. • Will design a prototype of a support decision system applied to a dimensional model. • Will learn and understand different information systems to support group decision making, specially, the "Executive Information System". • Will know the main trends of information systems to support decision making related to technology design and implementation.

Thematic Content

Themes and sub-themes of each unit:	Hours

1. **Introduction to dimensional data bases**
    1.1 OLTP
    1.2 OLAP
    1.3 Dimensional model
    1.4 Relational model
    1.5 SQL language
	8

2. Applications of dimensional data bases 2.1 Sales process 2.2 Sending process 2.3 Manufacturing 2.4 Financial services 2.5 Insurance 2.6 Education	**6** **16**
3. Design and implementation 3.1 Design process 3.2 Advice, implementation and applications 3.3 System administration aspects	**8**
4. Trends of support systems for decision making 4.1 Enterprising intelligence 4.2 Data mining 4.3 Business intelligent systems	**4**

Learning Activities:
 	
• **In class activities:**
   - Presentations in class by the instructor
   - Laboratory practice and/or workshop guided by the instructor
   - Plenary presentations and/or discusión guided by the instructor
   - Small groups activities, guided by the instructor
   - Individual activities guided by the instructor
 	
• **Student independent activities:**
   - Previous readings
   - Homeworks
   - Exercises and practices
   - Research projects
   .
	36
	
	60

Independent learning activities	Hours
1. Reading material suggested by the instructor.	20
a. The student will conduct inbdividual readings to be able To know and understand the decisión making process and The support systems. Specially: Application chapters from The dimensional model, R. Kimball book.	
2. Writing of an article, essay of readings summary	5
a. The student will write and article describing a decision making problematic in an enterprising environment and the form on how to implement an information system for problema solving.	
3. Problem solving selected by the instructor	10
a. The student will solve simple dimensional data bases application cases, indicated by the instructor.	
4. Field practices	OP
a. This activity will provide the student the required software tools for information systems development, specifically SQL.	
5. Research and development porject, assigned by the instructor	10
a. The student should do a presentation on the dimensional data bases trends.	
6. Course integration Project	25
a. For this activity, the student should develop the design and Should implement a dimensional system prototype for The case application described in the thecnical article.	

Instruments and procedure of evaluation

The following instruments and procedures of evaluation for this course are:
1. Written or oral test.
   a. The student must show that he has understood the main topics of this course. In an orally and written way.
2. Deliverable products.
   a. The student mus deliver a technical article based on a decision making problem solving with the use of the technology subject of this course.
   b. The student must deliver a reporte and a summary of all the exercises from the reference book assigned by the instructor.
3. Presentations in class.
   a. Each of the students must do an in class final presentation of the integration project .
4. Participation in discussion sessions.
   a. This instrument will not be subject to evaluation

Criteria for evaluation:
1. The instruments and procedures of evaluation will be focused in all the learning activities and they will be guided by the instructor.
2. The instructor will assign a grade on each of the evaluation instruments. The assigned grade will range from 0 to 100.
   a. Technical article structure   25 points
   b. Problems and case solving   25 points
   c. Project research and presentation   15 points
   d. Final integration Project   35 points
3. The instructor will report to the Graduate Studies Director the average grade obtained on all the evaluation instruments by each student.
4. The mínimum grade to pass this course will be 80
5. The student will not fail this course based on absenties.

Bibliography

	Type	Títle	Author	Editorial	Year
1	Reference book	The Data Warehouse Toolkit, 2E	Ralph Kimball	Wiley	2002
2	Reference book	Decision Support Systems and Intelligent Systems	Efraim Turban	Prentice Hall, USA	1998
3	Reference book	Information Systems for decisión making	Daniel Cohen	McGraw Hill	1998