Course Syllabus
Management Information System

August – December 2021

X / IX Term

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I. General features of the course

Course:	Management Information System		
Pre_requisite:	Industrial and Commercial Engineering: Strategic Planning / Business Process Engineering Management & Finance: Strategic Planning / Finance Technology of Information	Code	10244
Precedent:	-	Semester	2021-2
Credits:	4	Cycle	X: Industrial and Commercial Engineering IX: Management & Finance
Weekly hours	5 hours	Modality	Remote – Synchronous
Course type /College career	Mandatory: • Industrial and Commercial Engineering • Management & Finance	Coordinator	Joseph Ballon A. jballon@esan.edu.pe

II. Course Summary

This course cover theory & practical criteria on Information Systems. (on its variants) integration of business strategies with information technology solutions, business processes and topics related to emerging information technologies. On the practical part, it will be covering, criteria of information systems design and developing, with emphasis on database design for final solution such as CRM, Finance, SCM and others. Finally, this course provide basic criteria for information technology management.

III. Learning Goals

The objective of the course is to provide resources for students to implement information systems in different companies using the fundamentals of management information systems and aligning information systems with the objectives and processes of the organization.

IV. Learning Outcomes

At the end of the course, the student will be able to:

- Recognize the basic components of Management Information Systems (MIS) and the new role of the CIO (Chief Information Officer)
- Explain the influence of Information Systems (IS) on organizational goals and how Information System transforming business today.
- Recognize and explain the ethical and social issues related to the information systems and information system security.
- Describe the information technology infrastructure
- Understand what are the main activities in the software development process
- Understand how to achieve operational excellence and customer intimacy with Enterprise Applications
- Design a web page with its basic components
- Recognize how the information systems can support the decision-making process
- Design an entity relationship model
- Examine a database through SQL statements
- Understand a Strategic Information System Plan
- Recognize that SCRUM is an agile framework for managing information systems projects
- Learn how to propose innovative IT solutions applying design thinking techniques
- Explain the new trends and digital transformation
- Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering problems, with an understanding of the limitations
- Ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- Ability to function as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings
- Recognition of the need for, and an ability to engage in independent and life-long learning in the broadest context of technological change.
- Ability to function as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

V. Methodology

The classes are based on the active participation of students through research, preparation and topics presentation. The professor assumes the role of guide, facilitator and animator of the learning process. Teamwork and classroom dynamics are also used to reinforce the learning process and to develop the skills necessary to successfully develop the participant.

Readings are indispensable to understand better the topics and for the reading controls. In addition, after each class, you must complement the topics worked with the texts indicated in the supplementary bibliography.

VI. Evaluation System

The evaluation system is integral and permanent. The course grade is obtained by averaging the permanent evaluation (65%), the midterm exam (15%) and final exam (20%).

The weights within the ongoing evaluation are described in the following table:

PERMANENT EVALUATION (PE) 65%		
Type of evaluation	**Description**	**Ponderation %**
Participation, attendance and punctuality **(PAP)**	Individual assignment / teamwork/Labs/Attendance	05
Special Group Assignment	The students will present a special lecture (10 – 15 min) about a specific topic proposed by the professor	10
Evaluations **(Test)**	Test **3**	40
Final Work	Final evaluation (Solution proposal: Implementation - Information System)	45

The final score or grade calculates as follows:

G = (0,15 x ME) + (0,65 x PE) + (0,20 x FE)

G = Grade
ME = Midterm exam
PE = Permanent evaluation
FE = Final exam score

VII. Course Topics:

WEEK	CONTENT	ACTIVITIES / EVALUATION
LEARNING UNIT 1: Introduction and fundamentals concepts of MIS **LEARNING OUTCOME:** • Recognize the basic components of Management Information Systems (MIS) and the new role of the CIO (Chief Information Officer) • Explain the influence of Information Systems (IS) on organizational goals and how Information System transforming business today. • Recognize and explain the ethical and social issues related to the information systems and information system security. • Describe the information technology infrastructure • Understand what are the main activities in the software development process • Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering problems, with an understanding of the limitations • Ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.		

1° **August 23 – 28**	**1. Fundamentals concepts of MIS** 1.1. Basics concepts of MIS/ Types of MIS 1.2. Dimension and components of IS 1.3. Benefits of MIS 1.4. Evolutions of MIS development 1.5. New role of the CIO 1.6. Database 1.7. Database development 1.8. Database normalization Laudon, K. C., & Laudon, J. P. (2018). *Management information systems: managing the digital firm. Chapter 1 p.p. 30-59*	**Opening Case:** Enterprise Social Networking Helps ABB Innovate and Grow
2° August 30 – September 04	**2. Strategic Information System** 2.1. Fundamentals of strategic IS 2.2. The competitive forces strategies 2.3. Value chain and analyze the influence of IT on organizational goals. 2.4. The use of information systems to add value to the organization *Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 3 p.p. 106-140*	**Laboratory** Test 1
3° September 06 – 11	**3. Ethical and Social Issues in Information Systems/ Securing IS** 3.1. Ethical, social, and political issues in the information era. 3.2. Challenges of IS and the Internet to protect of individual privacy and intellectual property 3.3. Information systems vulnerability 3.4. Value of security and control in Business 3.5. The most important tools and technologies for safeguarding information resources *Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 4 p.p. 150-177, Chapter 8 p.p 320-338*	**RC1** **Case study** **Laboratory**
4° September 13 - 18	**4. IT Infrastructure and Emerging Technologies** 4.1. IT infrastructure, and IT infrastructure evolution 4.2. The components of IT infrastructure 4.3. Current trends in computer hardware platforms 4.4. Challenges of managing IT infrastructure and management solutions	**Case Study** **Laboratory** Test 1.4

	Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 5 p.p. 192-210	
5° September 20 - 25	**5. Building Information Systems** 5.1. New systems produce organizational change 5.2. Core activities in the systems development process 5.3. Principal methodologies for modeling and designing systems 5.4. Alternative methods for building information systems 5.5. New approaches for system building in the digital firm era	**Laboratory**
	Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 13 p.p. 514-536	
LEARNING UNIT 2: Enterprise Business Systems & E-Enterprise Systems. **LEARNING OUTCOME:** • Understand how to achieve operational excellence and customer intimacy with Enterprise Applications • Design a web page with its basic components		
6° September 27 – October 02	**6. Achieving Operational Excellence and Customer Intimacy: Enterprise Applications** 6.1. Enterprise Business Systems 6.2. Basics concepts of EB systems 6.3. Enterprise Resource Planning (ERP System) 6.4. Customer Relations Management (CRM Systems) 6.5. Supply chain planning (SCP systems)	**RC2** **Case Study** **First progress Final Work** **Laboratory** **Test 2**
	Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 9 p.p. 364-377	
7° October 04 - 09	**7. E-Business and E-Commerce** 7.1. Features of e-commerce, digital markets, and digital goods 7.2. Principal e-commerce business and revenue models 7.3. Transformed marketing with e-commerce **7.4.** Role of m-commerce in business, and the most important m-commerce applications **7.5.** Building an e-commerce web site	**Case Study** **Laboratory**
	Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 10 p.p. 398-423	

8° October 11 - 16	**Midterm exam**	
LEARNING UNIT 3: Database and Business Intelligence. **LEARNING OUTCOME:** • Recognize how the information systems can support the decision-making process • Design an entity relationship model • Examine a database through SQL statements		
9° October 18 - 23	**9. Foundations of Business Intelligence: Databases and Information Management (1)** 9.1. Basics concepts of BI and Big Data 9.2. Database, Datamart & Datawarehouse **9.3.** Entity – Relationship (conceptual) *Laudon, K. C., & Laudon, J. P. (2018) . Chapter 6 p.p. 238-255* *Coronel, C., & Morris, S. (2016). Chapter 4 p.p 105-138*	**Case Study LAB2:** ER-Model (Conceptual) **Laboratory**
10° October 25 –30	**10. Securing Information System** 10.1. Vulnerability Information 10.2. Business Value Security *Laudon, K. C., & Laudon, J. P. (2018) . Chapter 8 p.p. 292-330*	**Laboratory**
11° November 01 – 06	**11. Enhancing Decision Making** **11.1.** Types of decisions *Laudon, K. C., & Laudon, J. P. (2018) . Chapter 12 p.p. 452-483*	**Laboratory**
12° November 08 - 13	**12. Enhancing Decision Making** **12.1.** The decisions making process *Laudon, K. C., & Laudon, J. P. (2018) . Chapter 12 p.p. 452-483*	**Second Progress-Final Work** **Laboratory**
LEARNING UNIT 4: Planning and Development of Information Systems and Project MIS **LEARNING OUTCOME:** • Understand a Strategic Information System Plan • Recognize that SCRUM is an agile framework for managing information systems projects • Learn how to propose innovative IT solutions applying design thinking techniques • Recognition of the need for, and an ability to engage in independent and life-long learning in the broadest context of technological change		
13° November 15 - 20	**13. Managing projects** 13.1. Objectives of project management 13.2. Project risk 13.3. Controlling risk factors	**RC4**

	Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Chapter 14 p.p. 527-550	**Laboratory**
14° November 22 - 27	**14. Fundamentals of project management information systems with agile methodologies** 14.1. Introduction of SCRUM 14.2. Roles and meetings 14.3. User stories	**Class participation** **Laboratory** **Test 3**
	Schiel, J. (2016). *The ScrumMaster Study Guide*. Chapter 12 Págs. 83-100	
LEARNING UNIT 5: Information Technologies and Digital Trends **LEARNING OUTCOME:** • Explain the new trends and digital transformation • Ability to function as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings		
15° November 29 – December 04	**15. IT Trends** 16. Artificial Intelligence/Machine Learning 17. Machine to Machine/IOT ***18.*** Block Chain	**Final work Presentation**
	Research work	
16° December 06 - 11	**FINAL EXAM**	

VIII. Bibliography

Mandatory References:

- Laudon, K. C., & Laudon, J. P. (2018). Management information systems: managing the digital firm. Fifteenth Edition. Pearson.
- Laudon, K. C., Laudon, J. P. (2014). Management Information Systems: Managing the Digital Firm, 13th Edition. Pearson [T58.6 L37i 2014]
- Coronel, C., & Morris, S. (2016). Database systems: design, implementation, & management. Cengage Learning.

Complementary References:

- Olson, D. (2014; 2015;). Information systems project management (First;1; ed.). US: Business Expert Press.
- Schiel, J. (2016). The ScrumMaster Study Guide. Auerbach Publications.
- Stair, R., & Reynolds, G. (2015). Fundamentals of information systems. Cengage Learning.
- Van der Heijden, H. (2009). Designing management information systems. GB: Oxford University Press
- Wilton, P., Colby, J., & Books24x7, I. (2005). Beginning sql (1st ed.). US: Wrox.

IX. Professor

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X. Laboratory Software

- Access
- Excel