Course Syllabus: Information Technology Management

August - December 2021

X Term

Luigi Lizza Mendoza

I. General Information

Course name:	Information Technology Management		
Pre-requisite:	Strategic Planning, Project Management	**ID:**	10319
Precedent:	NA	**Semester:**	2021-2
Credits:	3	**Term:**	X
Hours:	4 Hours	**Course Modality:**	Virtual course
Type of course and Career	**Mandatory:** Information Technology and Systems Engineering	**Course coordinator:**	Joseph Ballon A. jballon@esan.edu.pe

II. Course Outline

The course aims to present concepts, approaches, techniques and tools for developing an Information Technologies (IT) Strategic Plan, whose objectives are perfectly aligned with the strategic objectives of the organization. The course develops an analysis of the current state of business and IT management and evaluates the information architecture, IT strategy, technology architecture and applications that support the business in order to determine the gap between current and desired situation and what are the strategies to bridge the gap.

III. Course Objectives

The objective of the course is to teach participants the skills necessary to develop a strategic IT plan for a company.

IV. Learning Outcomes

Design and implement an Information Technology Strategic Plan, aligned with the business strategic objectives, integrating technology solutions with business processes in order to develop competitive advantages.

Upon successful completion of this course, the student will be able to:

- Identify and apply the Information Technologies in order to develop competitive advantages
- Develop an IT Strategic Plan aligned to business objectives
- Planning technological architecture of the organization.
- Identify, assess and prioritize those Information Technologies projects adding value for companies

V. Methodology

The teaching method used for this course includes lectures supported by pre-assigned reading and case studies.

VI. Assessment Method

Your grade in the course will be determined as follows:

PERMANENT ASSESSMENT AVERAGE 50%			
Appraisal Type	**Description**	**Weight %**	
Business Cases	6 Business Cases	50%	
Course Project	2 Deliveries	25%	25%

FS = (0,25 x ME) + (0,50 x PAA) + (0,25 x FE)

Where:
FS = Final Score
ME = Midterm Exam
PAA = Permanent Appraisal Average
FE = Final Exam

VII. Scheduled Contents

WEEK	*CONTENTS*	*ACTIVITIES / APPRAISAL*
LEARNING UNIT I: STRATEGIC PERSPECTIVE OF INFORMATION TECHNOLOGIES AND THE PLANNING PROCESS **LEARNING OUTCOMES:** • Identify and apply the Information Technologies in order to develop competitive advantages • Ability to identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences • Ability to conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions		
1° **August 23 to 29**	**STRATEGIC PERSPECTIVE OF INFORMATION TECHNOLOGIES** 1.1 Global Digital Report 1.2 Internet of the Things (IoT) and the Smart cities 1.3 The Fourth Industrial Revolution: Industry 4.0 1.4 The Digital Economy 1.5 Innovation, Digital Transformation and Business Models 1.6 The Digital Transformation in Peru *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 1 (pp. 1 – 52)*	Presentation of course methodology. Review of guides and guidelines for the preparation of the final assessment. Presentation of IT Strategic Plan Project
2° **August 30 to September 5**	**THE PLANNING PROCESS** 2.1 The Planning Process 2.2 Problems and Barriers 2.3 Planning Components 2.4 Planning Process 2.5 Plan Contents 2.6 Plan Development *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 3 (pp. 118 - 162)*	Business Case Nro. 1
3° **September 6 to 12**	**An Overview of Business Strategy and the IT Strategy Implications** 2.7 The Strategic Framework 2.8 Business Strategy Formulation and Planning Process 2.9 Pressure Groups and Stakeholders 2.10 Strategy Tools and Techniques *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 2 (pp. 64 - 111)*	
4° **September 13 to 19**	**Analyzing and Documenting the Business Strategy and its Implications on IT** 2.11 The Internal Value Chain Analysis 2.12 The Industry Value Chain Analysis 2.13 Alternative Value Configuration Models 2.14 Information Technologies and the Value Chain *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 5 (pp. 237 - 272)*	Business Case Nro. 2
LEARNING UNIT II: UNDERSTANDING AND ANALYZING THE CURRENT IT SITUATION **LEARNING OUTCOMES:** • Planning technological architecture of the organization. • Ability to identify, formulate, research literature and analyse complex engineering		

WEEK	CONTENTS	ACTIVITIES / APPRAISAL
	problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences • Ability to communicate effectively on complex engineering activities with the engineering community and with the society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	
5° September 20 to 26	**UNDERSTANDING THE CURRENT IT SITUATION** 3.1 Understanding the Current IT Situation 3.2 Review IT Documentation 3.3 Documenting the Business Applications Environment 3.4 Documenting the Technical Infrastructure Environment *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 4 (pp. 179 - 233)*	
6° September 27 to October 3	**ANALYZING THE CURRENT IT SITUATION** 4.1 Analyzing the Current IT Situation 4.2 Conduct Industry Benchmarking 4.3 Identify IT Industry Trends and Competitor Profiles 4.4 Identify High-Level Functional Requirements and Gaps 4.5 IT SWOT Analysis 4.6 Develop Business Application options and recommendations *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 4 (pp. 179 - 233)*	Business Case Nro. 3
7° October 4 to 10	**First Delivery of IT Strategic Plan Project**	
8° October 11 to 17	**MIDTERM EXAM**	
LEARNING UNIT III: IT STRATEGIC PLAN AND IT GOVERNANCE **LEARNING OUTCOMES:** • Develop an IT Strategic Plan aligned to business objectives • Ability to design solutions for complex engineering problems and design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability • 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		
9° October 18 to 24	**IT STRATEGIC PLAN** 5.1 Determining the IT Strategy Direction 5.2 Developing IT Vision and Mission 5.3 Developing IT Values, Goals and Strategies	

WEEK	CONTENTS	ACTIVITIES / APPRAISAL
	5.4 Application Architecture Definition 5.5 Classifying the applications in the portfolio *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 7 (pp. 299 - 334)*	
10° **October 25 to 31**	**IT Infrastructure Architecture Definition** 5.6 Strategies for Managing the IT Infrastructure 5.7 Linking the IT Infrastructure with The Business Strategy 5.8 Justifications of Infrastructure Investments *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 11 (pp. 522 - 573)*	Business Case Nro. 4
11° **November 1 to 7**	**IT GOVERNANCE** 6.1 IT Governance 6.2 IT Governance Definition 6.3 IT Governance Framework 6.4 IT Governance Domains 6.5 COBIT as IT Governance Framework *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 12 (pp. 603 - 608)*	
12° **November 8 to 14**	**Organizing and Resourcing** 6.6 Organizing Strategies for IT Management 6.7 Organizational Design 6.8 Outsourcing Strategies *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 12 (pp. 603 - 608)*	Business Case Nro. 5
LEARNING UNIT IV: MANAGING INVESTMENT AND IT SERVICES **LEARNING OUTCOMES:** • Identify, assess and prioritize those Information Technologies projects adding value for companies. • Ability to demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments		
13° **November 15 to 21**	**MANAGING INVESTMENT** 7.1 Managing Investments in IT 7.2 Identifying IT Projects 7.3 Investments and Priority Settings Process 7.4 Evaluating IT Investments 7.5 Setting Priorities for Applications *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 9 (pp. 420 - 455)*	
14° **November 22 to 28**	**IT SERVICES** 8.1 Managing IT Services 8.2 IT Services Strategies 8.3 Types of IT Services 8.4 Application Development and Provisioning Strategies 8.5 ITIL Framework 8.6 Measuring the IT Strategy: The balanced scorecard 8.7 The IT Balanced Scorecard 8.8 Altering the Balanced Scorecard for IT 8.9 IT Balanced Scorecard Metrics *J. Ward and J. Peppard. Strategic Planning for Information Systems, 3rd edition (2002) Chap 10 (pp. 466 - 502)*	Business Case Nro. 6

WEEK	CONTENTS	ACTIVITIES / APPRAISAL
15° **November 29 to December 5**	**Final Delivery of IT Strategic Plan Project**	
16° **December 6 to 12**	**FINAL EXAM**	

VIII. References

Mandatory bibliography:

- Ward, J. & Peppard, J. *Strategic Planning for Information Systems*. Third Edition. ISBN-10: 0470841478, ISBN-13: 978-0470841471.

Complementary bibliography:

- Harvard Business Review. *Strategy-Focused IT Organization*. a Balanced Scorecard Reader.
- Harvard Business Review. Harvard Business Review on Aligning Technology with Strategy.
- Anita Cassidy. *A Practical Guide to Information Systems Strategic Planning*. Second Edition.
- Ireland, T. *How to Write a Great Information Technology Strategic Plan? - And Thrill Your CEO.*
- Keyes, J. *Implementing the IT Balanced Scorecard: Aligning IT with Corporate Strategy.*
- Benson, R. *From Business Strategy to IT Action: Right Decisions for a Better Bottom Line*.
- McAfee, A. *Enterprise 2.0: New Collaborative Tools for Your Organization's Toughest Challenges*.

IX. Professor

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ANNEX

Workgroups

Students should form workgroups to develop the cases and the course project. The number of people that will make up the groups will be determined by the first day of classes based on the number of students enrolled.

About the Cases

The cases are an important tool in the learning process of the course, but to be successful it relies on active and meaningful participation of class members. Everyone should read and be prepared to discuss the assigned case. Each workgroup should analyze the assigned case and submit a written report according with the schedule detailed in the syllabus.
The cases will be discussed in class, and each group must be ready to give a presentation about their analysis. Cases will be assigned in the first class.

About the Readings

Each class session has an associated set of readings that are intended to strengthen students' knowledge about each of the topics developed in class. The students should come to class having read the readings corresponding to the lecture.
The quizzes taken in class will be based on the readings and the topics covered in class.

Course Project

The students will develop an IT Strategic Plan of a real company, which will be chosen by the group. In the first class of the 2nd week, the students will present a brief description (one page) describing the business and industrial sector where it operates, products and / or services that sells, company size, an overview about its information technologies (ERP, CRM, web site, etc.) that the company uses, sources of information used to develop the project, etc. With my approval of the company chosen, the group will then be able to start the project.

There will be two official submissions according to the course syllabus, although students can bring drafts of their project to be reviewed in class,

Papers should be written in a style that is suitable for submission to boards and senior managers of the enterprise. The length of the term paper will not exceed 15 pages (excluding exhibits). Any paper that exceeds this length might receive a lower score.