ISM UNIVERSITY OF MANAGEMENT AND ECONOMICS

TECHNOLOGY PROJECT

Course code	*MNG211*
Compulsory in the programmes	*Industrial Technology Management*
Level of studies	*Undergraduate*
Number of credits and	*6 ECTS (48 contact hours + 6 consultation hours, 106 individual work hours)*
Course coordinator (title and name)	*Dr Jelena Angelis, Dr Jannis Angelis*
Prerequisites	*None*
Language of instruction	*English*

THE AIM OF THE COURSE:

This course presents an introduction to developing a technology-based product and turning it into a commercially attractive proposition (either via a company or as a service). It covers various elements such as identifying potentially interesting idea/technology, putting a project plan around that idea, assessing competitive positioning and stakeholders, deciding on the additional services, and putting up an appealing proposition. The course focuses on what resource allocation and development means to firms in today's competitive environment and how firms should manage innovation-related activities at the strategic, organizational, and managerial levels to remain competitive in a fast-changing economic and technological scenario.

MAPPING OF COURSE LEVEL LEARNING OUTCOMES (OBJECTIVES) WITH DEGREE LEVEL LEARNING OBJECTIVES (See Annex), ASSESMENT AND TEACHING METHODS

Course level learning outcomes (objectives)	Degree level learning objectives (Number of LO)	Assessment methods	Teaching methods
CLO1. To be able to recognize and prepare different elements of a project.	BLO1.1 BLO1.2	Case discussions evaluation	Case discussions Reading and discussions
CLO2. To be able to recognize what constitutes a business model and operations strategy in creating firm's or project's competitiveness	BLO1.1 BLO1.2	Case discussions evaluation Reading and discussions evaluation Final exam	Case discussions Reading and discussions
CLO3. To be able to understand what constitutes strategic performance management and measurement and how it could affect a company's innovation strategy	BLO1.1 BLO1.2	Case discussions evaluation	Case discussions Reading and discussions

		Reading and discussions evaluation Final exam	
CLO4. To be able to understand how to structure processes in the company as a management tool	BLO 3.2	Case discussions evaluation Reading and discussions evaluation Final exam	Case discussions Reading and discussions
CLO5. To be able to recognize the key elements needed to successfully describe and prepare a technology or innovation-based idea	BLO 3.2 BLO 4.3	Case discussions evaluation	Case discussions Reading and discussions
CLO6. To be able to structure and perform a technology audit in a company	BLO 3.2 BLO 4.3	Case discussions evaluation Final exam	Individual study Case discussions

ACADEMIC HONESTY AND INTEGRITY

The ISM University of Management and Economics Code of Ethics, including cheating and plagiarism, are fully applicable and will be strictly enforced in the course. Academic dishonesty and cheating can and will lead to a report to the ISM Committee of Ethics. Regarding remote learning, ISM reminds students that they are expected to adhere to and maintain the same academic honesty and integrity that they would in a classroom setting.

COURSE OUTLINE

Topic	In-class hours	Readings
INTRODUCTION to the theme of Technology Project and information about the structure of the course and the expected outcomes. Introduction to the theme of Technology Project **Ideation workshop** How do we create ideas? What tools and skills are needed (Class 1-2)	4	Will be announced in eLearning
PERFORMING TECHNOLOGY AUDIT Part 1: objectives of the audit, elements, key guiding questions Part 2: screening new ideas (Class 11-12)	4	Will be announced in eLearning
CHOOSING TECHNOLOGY / INNOVATIVE IDEA Exercise: Choosing between 3 innovative ideas Team development canvas (Class 13-14)	4	Will be announced in eLearning

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APPROVED BY
THE STUDY COMMISSION
Minutes No. 02-12-2023-03
as of 1st February 2023

OPERATIONS STRATEGY Lecture + Case discussion (early reading is **REQUIRED**) (Class 3-4) Mini-case competition Consultations about group projects	4	How David Beats Goliath. A non-stop full-court press gives weak basketball teams a chance against far stronger teams. Why have so few adopted it?" The New Yorker, 11 May 2009 Reading: Da Silva, C. and Trkman, P. 2014. Business Model: What It Is and What It Is Not Long Range Planning 47: 379–389 Subramaniam, M., Iyer, B. and Venkatraman, V. 2019. Competing in digital ecosystems. Business Horizons, (2019), 62:83-94. Angelis, J. and Ribeiro da Silva, E. 2019. Blockchain adoption: a value driver perspective. Business Horizons.
INTERIM presentations of group projects Feedback from the groups and lecturers	4	
SERVICE STRATEGIES Lecture + Case discussion **Mini-case competition** **Consultations about group projects** ((Class 5-6)	4	Angelis, J. et al. 2012 Discretion and complexity in customer focused environments, European Management Journal Kamp, B. and Parry, G. 2017. Servitization and advanced business services as levers for competitiveness. Industrial Marketing Management, 60:11–16
DIGITAL STRATEGIES AND PERFORMANCE Lecture + Case discussion **Mini-case competition** **Consultations about group projects** (Class 7-8)	4	Lee, M. et al. 2016 Working with Machines: Impact of Algorithmic and Data-Driven Management. Working Paper Pinheiro de Lima, E., et al. 2012. Performance measurement systems: A consensual analysis of their roles. International Journal of Production Economics Makridakis et al. 2010. Why forecasts fail. Sloan Management Review. 51(2)
MANAGING THE PROCESS Lecture + Case discussion **Mini-case competition** **Consultations about group projects** (Class 9-10)	4	Sadun et al. 2017. Why do we undervalue competent management? Harvard Business Review. Sep-Oct. Post S. and Slaughter, J. Lean production: Why Work is Worse Than Ever, and What's the Alternative? Working Paper Ali, A., Mancha R. and Pachamanova, D. 2018. Correcting analytics maturity myopia. Business Horizons, 61:211-219.

IMPORTANCE OF STAKEHOLDERS Case discussion: Changes in the business models in the eco-system: the case of 3DP (guest speaker) (Class 11-12)	4	
Introduction to the Artificial Intelligence **Business of AI** Guest speaker (Class 13-14)	4	
RISK ASSESSMENT in developing a new technology or innovation-based idea Case study: Use of big data and analytics to generate new and improved services (guest speaker) (Class 15-16)	2	
ASSESSING PROJECT APPLICATION (criteria used for assessment of innovativeness and potential of the technologybased project idea) (Class 17-18)	2	
Final group presentations	4	
	Total: 48 hours	
CONSULTATIONS	6	
FINAL EXAM	2	

FINAL GRADE COMPOSITION

Type of assignment	%
Group Components 50%	
Interim group presentation	10
Final group presentation	10
Final group project	30
Individual Components 50%	
Final exam	50
Total:	**100**

DESCRIPTION AND GRADING CRITERIA OF EACH ASSIGNMENT
(Provide short descriptions and grading criteria of each assignment)

Interim group presentation (Class 1-6) Based on oral presentation**.**

Final group presentation (Class 1-11) 5 Based on oral presentation

Final group project (Class 1-11) Based on proposal prepared in writing

Final Exam (Class 1-12) 'Open book' written exam

The could be some changes in the order of the subjects.

RETAKE POLICY

The retake of the course consists of 50% and is based on all topics of the course.

REQUIRED READINGS

How David Beats Goliath. A non-stop full-court press gives weak basketball teams a chance against far stronger teams. Why have so few adopted it?" The New Yorker, 11 May 2009
 Da Silva, C. and Trkman, P. 2014. Business Model: What It Is and What It Is Not Long Range Planning 47: 379–389
Subramaniam, M., Iyer, B. and Venkatraman, V. 2019. Competing in digital ecosystems. Business Horizons, (2019), 62:83-94.
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ANNEX

DEGREE LEVEL LEARNING OBJECTIVES

Learning objectives for the <u>Bachelor of Business Management</u>
Programmes:
International Business and Communication,
Business Management and Marketing,
Finance,
Industrial Technology Management,
Entrepreneurship and Innovation

Learning Goals	Learning Objectives
Students will be critical thinkers	BLO1.1. Students will be able to understand core concepts and methods in the business disciplines
	BLO1.2. Students will be able to conduct a contextual analysis to identify a problem associated with their discipline, to generate managerial options and propose viable solutions
Students will be socially responsible in their related discipline	BLO2.1. Students will be knowledgeable about ethics and social responsibility
Students will be technology agile	BLO3.1. Students will demonstrate proficiency in common business software packages
	BLO3.2. Students will be able to make decisions using appropriate IT tools
Students will be effective communicators	BLO4.1. Students will be able to communicate reasonably in different settings according to target audience tasks and situations
	BLO4.2. Students will be able to convey their ideas effectively through an oral presentation
	BLO4.3. Students will be able to convey their ideas effectively in a written paper

Learning objectives for the <u>Bachelor of Social Science</u>
Programmes:
Economics and Data Analytics,
Economics and Politics

Learning Goals	Learning Objectives
Students will be critical thinkers	ELO1.1. Students will be able to understand core concepts and methods in the key economics disciplines
	ELO1.2. Students will be able to identify underlying assumptions and logical consistency of causal statements
Students will have skills to employ economic thought for the common good	ELO2.1.Students will have a keen sense of ethical criteria for practical problem-solving
Students will be technology agile	ELO3.1. Students will demonstrate proficiency in common business software packages
	ELO3.2. Students will be able to make decisions using appropriate IT tools
Students will be effective communicators	ELO4.1.Students will be able to communicate reasonably in different settings according to target audience tasks and situations
	ELO4.2.Students will be able to convey their ideas effectively through an oral presentation
	ELO4.3. Students will be able to convey their ideas effectively in a written paper