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  Reading and discussions  evaluation  Final exam | Case discussions  Reading and discussions |
| 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 |
| **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.

Angelis, J. and Ribeiro da Silva, E. 2019. Blockchain adoption: a value driver perspective. Business Horizons.

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

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)

**ANNEX**

**DEGREE LEVEL LEARNING OBJECTIVES**

**Learning objectives for the Bachelor of Business Management**

*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 Bachelor of Social Science**

*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 |