PROJECT MANAGEMENT

Bachelor in Data and Business Analytics BDBA SEP-2023
PM-DBA.3.M.A

Area Operations and Business Analytics
Number of sessions: 15
Academic year: 23-24
Degree course: THIRD
Number of credits: 3.0
Semester: 1º
Category: COMPULSORY
Language: English

Professor: **PEDRO JESÚS SÁNCHEZ FUENTES**

E-mail: psanchezf@faculty.ie.edu

Pedro is an IT professional with more than 14 years of experience delivering software implementation projects for a range of clients and building new innovative solutions and products. He has extensive international experience in Europe, Latin America and Australia. With an academic background in Industrial Engineering, he primarily acted as subject matter expert or functional lead in coordination with the different areas involved in a project: from conceptualization and design teams, to development, customers and other stakeholders. He additionally holds a Master in Energy and Industrial Sustainability.

He has always worked in projects within the energy industry, including Oil&Gas, Power generation and, more recently, new business models and needs arising from the new distributed energy paradigm. The increasing adoption of distributed energy resources such as electric vehicles and storage has generated a need for new IT solutions where Big Data and Artificial Intelligence, among others, become key enablers. His main interest remains in this area, where more efforts are still needed to engage the end consumers and to embed this type of solutions into a new cultural mindset for traditional energy companies facing a true digital transformation. He does not just help clients in these areas but has also actively participated in the creation and development of an internal practice within his current company, working with specific strategy, marketing, technical, consulting and innovation areas, with an intrapreneurial spirit.

Academic background

Indsutrial Engineer from Polytechnical University of Madrid

MSc Energy and Industrial Sustainability from De Montfort University

Professional experience

Maintenance Management System roll-out for main Utility in Spain and Mexico

Supply chain optimization project for major O&G player in Australia

ETRM implementations in O&G company in Ecuador and power retailer in Spain

Aggregation & flexibility product development

Participation on H2020 R&D projects for main Utility in Spain

Core competence areas

Energy processes and markets knowledge

Conceptualization and design

Product ownership, including product strategy

Scrum agile methodology

psanchezf@faculty.ie.edu

SUBJECT DESCRIPTION

This course will provide students with a general introduction to project management knowledge, tools and techniques. We will explore what it means to work in a project and how to manage the main areas proposed by the PMI (Project Management Institute) in the Project Management Body of Knowledge (PMBOK), such as scope, time, cost, human resources, stakeholders, risks and communication. Special emphasis will be given to innovative methodologies, Design Thinking, lean Start-Up and Scrum Agile applied to Project Management.

The specific skills that a project manager needs to acquire or develop to run a successful project such as structured thinking, analysis, problem solving, communication, leadership or conflict resolution will be covered. Special attention is given to the critical success factors required to overcome resistance to change which is critical for succesful IT projects and proper systems adoption and usage. In this course, students will explore project management with a practical, hands-on approach through case studies, team dynamics and class exercises.

LEARNING OBJECTIVES

At the end of the term, students will have received a strong introduction to the general principles of project management as defined by PMI and Agile methodology, together with the application of design thinking and lean startup methodologies. They will be able to apply both acquired knowledge and skills to their professional fields of interest, namely technology and data science.

TEACHING METHODOLOGY

Learning Activity	**Weighting**	**Estimated time a student should dedicate to prepare for and participate in**
Lectures	10.67 %	8.0 hours
Discussions	2.67 %	2.0 hours
Exercises in class, Asynchronous sessions, Field Work	6.67 %	5.0 hours
Group work	46.67 %	35.0 hours
Individual studying	33.33 %	25.0 hours
TOTAL	100.0 %	75.0 hours

PROGRAM

SESSION 1 (LIVE IN-PERSON)

Introduction to the course and Project management

Welcome and introductions. Presentation of objectives. outcomes and course practicalities, including assignments. Introduction to project management and the role of the project manager. **Objectives**: becoming aware of the relevance of project management in a changing world. Formation of class groups and practical exercises to select a project idea.

Supporting slides only

SESSION 2 (LIVE IN-PERSON)

Forming High Performing Teams

Introduction to the main attributes of team members, that form the basis of subsequent methodologies, but are often overlooked and a reason for disatisfaction. **Objectives**: Transforming teams into High Performers is key to apply new methodologies. Practical exercises to reflect on individual values and goals and alignment with team mission.

Supporting slides only

SESSION 3 (LIVE IN-PERSON)

Design Thinking Methodology & Project work

Definition and main concepts, why design matters, Design Thinking stages and toolbox: research methodology, personas, empathy and stakeholders maps, point of view statements... Practial exercises in class to develop the projct challenge. Deliverables produced in the session will be refined and
submitted in session 4. **Objectives**: acquire basic knowledge of Design Thinking methodology and practice its application

Supporting slides only

SESSION 4 (LIVE IN-PERSON)

Design Thinking Methodology & Project work (continuation)

Exploration of remaining stages and tools: brainstorming, wireframes, testing... Practical exercises in class. Preliminary presentations of project work by students and feedback by professors to individuals and teams assignments and projects. **Objectives**: make an intemediate assessment of students work and become familiar with presentations. Deck quality and presentation will be graded. All team members should participate. An assignment will be created for the task.

Supporting slides only

SESSION 5 (LIVE IN-PERSON)

Lean Start-Up methodology & Project work

From startups and lean manufacturing theory to the lean startup methodology. Definition and main concepts. The Lean Model Canvas. Practical exercises in class to define the business model of your project idea. Deliverables produced in the session will be refined and submitted in session 6. **Objectives**: acquire basic knowledge of the lean start-up methodology and practice its application

Supporting slides only

SESSION 6 (LIVE IN-PERSON)

Lean Start-Up methodology & Project work

Continuation of concepts behind the lean startup methodology: Customer development process, metrics and pivot. Practical exercises in class to work on your project. Preliminary presentations of project work by students and feedback by professors to individuals and teams assignments and projects. **Objectives**: make an intemediate assessment of students work and become familiar with presentations. Deck quality and presentation will be graded. All team members should participate. An assignment will be created for the task.

Supporting slides only

SESSION 7 (LIVE IN-PERSON)

Agile Scrum Methodology & Project work

Definition and main concepts, the Agile Manifesto, Agile versus Waterfall Methodologies, the Scrum process. Practical exercises in class to work on your Scrum backlog. Deliverables produced in the session will be refined and submitted in session 8. **Objectives**: learning to translate an idea into a workable Agile Scrum project.

Supporting slides only

SESSION 8 (LIVE IN-PERSON)

Agile Scrum Methodology & Project work

Continuation of agile concepts: project charter and skills matrix. Preliminary presentations of project work by students and feedback by professors to individuals and teams assignments and projects. **Objectives**: make an intemediate assessment of students work and become familiar with presentations. Deck quality and presentation will be graded. All team members should participate. An assignment will be created for the task.

Blog entry

It is expected the student creates an entry in the class blog to share his/her personal views about the team progress, watch-outs, methodology used etc... Topic will be clarified in the session. Entries will be graded.

Supporting slides only

SESSION 9 (LIVE IN-PERSON)

Project Management basics

Present the main aspects of projects: concept, characteristics and the role of the project manager. Understand the differences between projects and operations. Management models and stages. Focus on setting up a project and planning. **Objectives**: Consolidate the main principles of project management

Technical note: Project Management Manual (HBS 697034-PDF-ENG)

SESSION 10 (LIVE IN-PERSON)

Project Management basics (continuation)

Continuation of planning concepts and tools: Work Breakdown Structure, Gantt chart, budgeting, risk management. Practical exercises in class to continue developing your project. **Objectives**: Consolidate the main principles of project management

Supporting slides

SESSION 11 (LIVE IN-PERSON)

Project Management simulation

Simulating the execution stage of a project using a simulation tool. **Objectives**: Understand the simulation parameters and get familiar with basic navigation and game play. Explore how different project factors (scope, team size, skill level, degree of outsourcing, etc...) relate to project outcomes. Class discussion on key factors to take into account when running a project.

Multimedia Material: Project Management Simulation: Scope, Resources, Schedule V3 (HBS 7701-HTM-ENG)

SESSION 12 (LIVE IN-PERSON)

Project Management simulation

Results from previous simulation application will be presented and discussed. A new simulation game play will be used in this session focused in planning and budget. Class discussion to factors leading to success or failures. **Objectives**: Understand bottlenecks, dependencies and decision-making processes.

Practical Case: Masters Series Madrid (OPE010098-U-ENG-HTM)

SESSION 13 (LIVE IN-PERSON)

Behavioral competences

Introduce other areas of the project manager role that often also have a relevant impact: leadership, communication, conflict resolution, negotiation, change management, teamwork. **Objectives**: explore different leadership styles, understand the importance of relevant and timely communication, and study different styles of conflict resolution and of negotiation. These skills will be worked in class using group exercises and dynamics.

Supporting slides only

SESSION 14 (LIVE IN-PERSON)

Online exam

Details: 20 multichoice questions related to the topics shared in the course to be answered in 45 min. Students that fail the exam will not pass the course

SESSION 15 (LIVE IN-PERSON)

Final project presentations

All groups will present the results of the challenge chosen. The Team Project is meant to be a culmination of all the lessons in the course. Students will work in teams on the project chosen for the course, incorporating the knowledge acquired during the course. Each group will make a 20-minute formal presentation with the conclusions from their work. There will then be a 10 min Q&A session where the whole class and the professors will ask and comment on their work. All team members will share the same grade in the final presentation, if there are no complaints about somebody's lack of participation in the assignment (peer evaluation), in that case a downgrade can be applied. It is compulsotry that all team members take part in presenting, ensuring their contribution to the final grade. An assigment will be created to submit the deliverables

Blog entry

It is expected the student creates an entry in the class blog to share his/her personal final views about the the project and teamwork. Specific topic will be clarified in class. Entries will be graded.

EVALUATION CRITERIA

criteria	percentage	Learning Objectives	Comments
Final Exam	30 %		
Class Blog	10 %		
Intermediate Group deliverable	10 %		
Final Project Presentation	30 %		
Class Participation	20 %		

RE-SIT / RE-TAKE POLICY

Class participation is essential for you to reach the learning outcomes. It is greatly appreciated by the professor and classmates, as long as it is rspectful and it helps delivering the class contents. Your active participation will be graded in each of the discussions held in the session. Remember it is more important quality than quantity in your interventions.

Individual work. You will be asked to write blog posts on topics to be determined during the course, as a way to capture the student individual views and way of expressing. It is expected the student will bring a fresh point of view and a personal perspective and will take the opportunity to develop an idea around a class topic, different to those at practice in other activities and dynamics.

Intermediate Group Presentations. Different group presentations will be done throughout the course as described in the session instructions. These intermediate sessions give the opportunity for students to work on the group project topic of their choice in an iterative and sequential way, and to receive intermediate feedback.

Final Project Presentation. At the end of the course, students will deliver the final group presentation, which will be a summary of work throughout the term, will capture feedback from the intermediate presentations and will serve students to simulate a pitch round.

Final Exam, 20 multichoice questions. Studens that fail this exercise will go for a retake.

BEHAVIOR RULES

Please, check the University's Code of Conduct here. The Program Director may provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy here. The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code here. The Program Director may provide further indications.