SYLLABUS

Risk management

Academic year 2024/2025

Planeta Formación y Universidades

Índex

1. General Organization

1.1. Subject Information

Subject Information		
	Topic	Risk Management
	Topic Code	11_2MaPM_FT-EN-08
	Program Name	Master in Project Management Official Program of Universidad Internacional de la Empresa
	Credits	3 ECTS
	Type	Obligatory
	Year	First
	Period	First
	Language	English
	Teaching Modality	On-Campus
	Recommended study dedication per 1 ECTS	25 hours

1.2. Faculty

Teacher's name	Francisco Javier Sanz Pérez Mathematics Degree, PMP

1.3. Subject Presentation

This subject covers very important aspects in any project, as is the very uncertainty that exists around it. The project definition already emphasizes that one of its characteristics is its unique nature, that project as such has not been carried out previously.
Thus, this prediction of the future of the project, reflected in the planning of what we believe will happen, always entails risks, or rather threats or opportunities, which we associate with "things that can go wrong "regarding that prediction / planning, or "things that can go better than we anticipated".
We can ensure that, in order to achieve the project objectives, it is necessary to work in a systematic, iterative and analytical way, the management of uncertainty, or risk management, defined as positive (opportunities) or negative (threats).
In this subject, we will deal in depth with these aspects so essential for the achievement of our objectives as Project Managers. We will explain the concepts, tools, procedures and basic techniques of managing the risks of a project. We will approach them from several different perspectives and include both traditional, proven and widely used and innovative practices and recommendations recently proposed by project risk management professionals.

This subject aims at preparing students in the terminology, techniques and tools necessary to know the processes of creating 'stochastic models' versus 'deterministic models' when facing three (3) problems whose resolution is key for the success of the Project:

- Sensitivity Analysis of the Business Case (group of processes of 'Initiation' of the Project).
- Calculation of Contingency Reserves of Project Time (area of knowledge of 'Times', group of processes of 'Planning').
- Calculation of the Contingency Reserves of Project Costs (area of knowledge of 'Costs', group of processes of 'Planning').

As a result of the acquired knowledge, the student will learn to apply decision-making techniques in Integrated Scope-Time-Cost-Risk and Business-Case Sensitivity Models, which are widely accepted in current management practices.

Employability

The subject aims to offer a very broad and detailed view of the current "state of the art" of the professional in charge of managing the risks of a project, and will provide the student with key learning for the performance of both the professional activity as Project Director and the Responsible for Project Risks. Specifically, the subject will provide adequate guidance and sufficient resources to address the risk management of any project that the student has to address, so that can address with assurance the appropriate management of threats and opportunities that may arise.
The quantitative analysis part is of interest to all the professionals involved in the elaboration and / or revision of the Business Cases prior to the authorization of capital investment in the Project Management and the elaboration and / or revision of the Sub Scope, Term, Cost, Risk Plans as Subsidiary Plans.

Subject goal

Analysis of project risk management concepts, tools, procedures and techniques: preparation of corporate risk policies and standards, risk management planning, quantitative and qualitative risk analysis, statistical risk analysis techniques using Decision Tools Suite, risk monitoring and control.

1.4. Competences and learning results

CC4 Understanding principles and procedures for the planning and monitoring of quality and risk in a project.
HD5 Applying techniques for determining a projects feasibility, opportunity and and financial return on investment
CP01 Developing the appropriate strategic plan for each project targets and guidelines.
CP02 Applying the most suitable management method to the projects needs.

LEARNING OUTCOMES
· Knowledge of the basic processes involved in the project risk management functional area.
· Learning the foundations for a project risk management methodology applicable to any type of project
· Definition of the basic pros and cons of use of the risk analysis techniques included in the syllabus, and the basic criteria for deciding which should be used, taking
the project features and the maturity and other characteristics of the organisation into account.
· Defining and introducing a risk prevention approach which reduces the probability of occurrence and the risk of loss associated with project development contingencies
· Introduction to how quantitative analysis of risk can be applied to determine project return

on investment and project scheduling, through simple examples, using commercial software

2. Content

Analysis of project risk management concepts, tools, procedures and techniques: preparation of corporate risk policies and standards, risk management planning, quantitative and qualitative risk analysis, statistical risk analysis techniques using Decision Tools Suite, risk monitoring and control, and tools such as @Risk.

1. Risk concepts and types of risk
2. The Project Management Institute¿s project risk management methodology.
    a. Planning.
    b. Identification.
    c. Qualitative analysis.
    d. Quantitative analysis.
    e. Response planning.
    f. Monitoring and control.
3. The team required for risk management.
4. The time required for risk management.
5. Risk management cost.
6. The main risk identification techniques.
    a. Brainstorming.
    b. Checklists.
7. The main qualitative techniques for risk analysis.
    a. Probability and impact description.
    b. Probability/impact tables
8. Quantitative techniques for risk analysis.
    a. Reasons and need for quantitative analysis
    b. Sensitivity analysis.
    c. Decision trees.
    d. Monte Carlo simulation.
9. Estimation and control of contingencies and reserves.
    a. General points.
    b. Simple calculation of contingencies according to estimates of the probability and impact of identified risks.
10. Risk management support software.
11. The keys to effective project risk management.
12. Risk control. The Risk Manager.
13. Risk reduction and resolution: techniques and principles.

3. Teaching and Learning Methodologies

Problem-based learning: This methodology places the student at the center of learning. Having previously shared the information and knowledge necessary to deal with the problems, the resolution of these demands the student a process of recognition of the lessons learned, identification of the needs of the problem and development of the appropriate skills to achieve a satisfactory result. The key to the success of this methodology in the program we are dealing with, is the problem-solving and prior exposure, analysis and synthesis of information and knowledge to be sufficient to achieve the best possible outcome in solving the problem, but also to address enough learning and improvement challenges that motivate students and achieve effective learning

Learning based on experience: This methodological approach bases its effectiveness on the weight of experience in our learning processes. We learn much more from what we do than from what we hear or see. In the program that concerns us, we train professionals to manage and manage projects, so each step, each subject and each module must be oriented towards the development of appropriate skills in project management and management situations. In this sense, the students will work in different projects, across the course and throughout the course to be able to deploy and test the learning as the course progresses.

Case study: The case method would be a complement or a nuance with respect to the methodologies previously proposed. While the final project and business practices may place students in real contexts of problem solving and learning based on experience, most situations must be fictitious, supported by real cases, known or experienced by teachers, and will promote student learning in a simulation environment, without jeopardizing the success of a real project.

Seminars and conferences: Your training will be complemented by the organization of seminars and conferences in which professionals of recognized prestige and real experience in the field will participate.

“Students with disabilities or special educational needs”

EAE Business School will guarantee the achievement of the skills listed for all students. Those students who present special educational needs related to their hearing, visual, physical and/or organic, intellectual disability, mental health problems or temporary disability that directly affect the achievement of their academic results, will be attended by Student Services. Analyzing the particular case, the unit will establish the appropriate measures for curricular adaptation and will provide academic support to both the faculty and the student to achieve them.

It will be an essential requirement for this to issue a report on curricular adaptations by said Unit, so students with disabilities or special educational needs must contact it, in order to jointly analyze the different alternatives.

4. Activities

Learning Activities
Exposition: Group activities in which the teacher shares with the group knowledge and experiences that serve to frame or provide content for the subject. This exhibition can be oral or written, in the form of a presentation or using any other technological or audiovisual medium. In certain circumstances, the teacher instructs students individually or in teams, they are the ones who perform exposure of the key aspects of a subject, prior research topics to be exhibited.
Comparison of previous knowledge: The contrast with previous knowledge, before or after an exhibition, will be key to reinforce, and strengthen the lessons learned. The diversity of profiles, previous knowledge and experience of the students that make up a group makes this permanent exercise of contrast with their previous knowledge especially difficult, but it is at the same time a source of enrichment that guarantees that the limits of how far each can reach group only depends on the group itself.
Discussion: Once a knowledge acquisition phase is over, activities are proposed that make it necessary to relate this knowledge, understand it in order to explain and contrast it. These are the activities that we include under the debate and that are of a group nature, although they can be carried out in a different way. In small groups or groups, orally or in writing, based on some questions and discussion guidelines or the students being the protagonists of the moderation itself. In any case, any debate activity will be aimed at achieving a series of conclusions that will be the guarantee of progress in the acquisition of the expected learning. The comparison of scenarios is usually an activity of debate that helps in moderating them and in addressing the conclusions reached.
Summary: It gathers a whole set of activities, individual or group, that allow to clearly identify the lessons learned. From the realization of a scheme or conceptual map, to the resolution of an exercise, through a presentation or a role-playing game, we will find multiple activities that try to show the acquisition of specific knowledge and skills.
Problem solving: Problem solving activities generate scenarios of application of the lessons learned and deployment of the skills developed during the course. They can be both individual and group activities. In solving problems, the scenario is limited and the student is presented very clearly the type of resolution that is expected and the competencies to be deployed for such resolution.
Case Studies: The resolution of cases places the student in a context very close to that of business reality, where he, individually or in groups, must identify the problem or problems to be solved and display the competencies that he considers most appropriate depending on of the expected outcome. The resolution of cases will involve, in most cases, the creation of management and project management scenarios to display the acquired competencies.
Self-study: Individual study for exam preparation.
Tutorials: Sessions to resolve doubts about theoretical concepts or practical work.

5. Assessment

5.1. Assessment methods

The Student Assessment Model at the University follows the principles of the European Higher Education Area (EHEA).

Assessment system	Weighting
Continuous assessment activities *	60 %
Weight of each activity: Participation: 20 % Class presentation: 10 % Individual work or group work: 30 %	
Assessment system	Weighting
Exams* Final Exam	40%

***In order to pass the course it is mandatory to obtain a minimun average or 5 points in each part independently (Continuous assessment activities and Exams)**

The final grade will be calculated using the weighting described above, except in the case of failure to pass at least one of the two sections. In the latter case, the final grade will be the lowest grade between the continuous assessment activities and the exams.

For sanctions associated with lack of academic honesty, the 'Normativa General de Evaluación y Calificación de la Universidad y la Normativa de Convivencia y Reglamento Disciplinario de Estudiantes' (General Regulation for Assessment and Qualification of the University and the Coexistence and Disciplinary Regulations for Students) will be applied. In particular, the use of content authored by someone other than the student himself must be adequately cited in the submitted work. In the event of a coincidence of more than 15% -reproducing information from sources without properly citing them-, the sanction will be a fail grade (0) in the activity in which it is detected.

In case of repeated behavior, the penalty will be a fail grade (0) in the subject and loss of the call in which the infraction occurred, in addition to the decision taken by the disciplinary

committee for being a very serious infringement. Likewise, the use of fraudulent means during the exams will imply a fail (0) and may imply the opening of a disciplinary file.

In order to be assessed in ordinary call, you may not have more than 25% of absences in attendance.

In extraordinary call, the same competences/learning results will be assessed using the same system as in ordinary call. The student must repeat only the evaluative activities that he/she has not passed in ordinary call. Only students who have obtained a final grade of "Fail" or "Not submitted" may apply for extraordinary call.

5.2. Grading system

The course grade will be established on a numerical scale from 0 to 10, with the following associated qualitative grades:

Level of Proficiency	Official Grade	Qualitive Grade
Very competent	9,0 - 10	Outstanding
Proficient	7,0 - 8,9	Remarkable
Acceptable	5,0 -6,9	Passing
Not yet competent	0,0 -4,9	Failed

The mention of "Matrícula de Honor" ("Honors" degree) may be awarded at the discretion of the teacher to students who have obtained a grade equal to or greater than 9.0. One honors degree may be awarded for every 20 students when the teacher of the subject considers the performance of the candidates have been exceptional. In the event that the number of students in the group is less than 20, just one Honors Degree may be awarded.

In each of the activities carried out, **the achievement of the learning results** will be measured, with impartiality and objectivity.

6. Bibliography

Basic

- The Fundamentals of Quality Management. Dennis Kehoe. Springer (1996)
- Quality Management and Practices. Edited by Kim-Soon Ng. InTech (2012)

Recommended

- Project Quality Management: Why, What and How. Kenneth Rose J Ross Publishing, 2014
- Total Quality Management for Project Management. Kim H. Pries, Jon M. Quigley. Auerbach Publications, 2012

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