

Curricular Unit Form (FUC)

Course:	INDUSTRIAL ENGINEERING MANAGEMENT					
Curricular Unit (UC)	Risk Management				Mandatory	
					Optional	X
Scientific Area:	Engineering and industrial management					
Year: 1º	Semester: 1º	ECTS: 5		Total Hours: 3		
Contact Hours:	T:	TP: 45	PL:	S:	OT:	TT:
Professor in charge		Academic Degree /Title		Position		
Vitor Manuel Rodrigues Anes		PhD		Assistant professor		

T- Theoretical ; TP – Theory and practice ; PL – Laboratory ; S – Seminar ; OT –Tutorial ; TT – Total of contact hours

Entry into Force	Semester: Winter	Academic Year: 2016/2017
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Objectives of the curricular unit and competences (max. 1000 characters)

The course main learning objectives are:

- 1) In-depth understanding of the types of risks that threaten projects at each stage of development.
- 2) Knowledge of strategies used by highly successful project managers to recognize risks, assess probabilities and potential impacts, and take steps to respond to project risks.
- 3) Acquire skills in using proven risk identification and analysis tools to identify, analyse, rank, and quantify risk on various types of projects.
- 4) Get insight into the statistical theory and analytical tools which are the foundation for probability estimations used to analyse and plan for managing project risk

Syllabus (max. 1000 characters)

- 1) Introduction to Risk Management
- 2) Plan Risk Management
- 3) Identify Risks
- 4) Perform Qualitative Risk Analysis
- 5) Perform Quantitative Risk Analysis
- 6) Plan Risk Responses
- 7) Monitor and Control Risks

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Demonstration of the syllabus coherence with curricular unit's objectives (max. 1000 characters)

The course programmatic contents are logically structured to introduce the student, in a gradual way, to risk management. The course starts with an overview of fundamental concepts and definitions which prepares the students to the learning stages that follows. Next, the risk identification, the qualitative and quantitative risk analysis, the risk response and control are fundamental topics to promote the course learning objectives.

Teaching methodologies (including evaluation) (max. 1000 characters)

In this course, the students are introduced to the subjects with lectures, where pertinent examples are demonstrated to promote reasoning and collaboration. Students are invited to participate in the learning process by talking with each other and listening to others opinions.

The student's final grade will be determined by one of the following evaluation methods:

- 1) Practical work (40%) and test (60%)
- 2) Final exam (100%)

In all evaluations it is required 9.5 values for approval

Demonstration of the teaching methodologies coherence with the curricular unit's objectives (max. 3000 characters)

The selected teaching methods promote the achievement of the learning objectives by correlating the course programmatic contents with the student reasoning and acquired skills. Moreover, the practical work promotes the linkage between the student and the course contents which in turn promote the linkage between the student and the teacher.

Main Bibliography (max. 1000 characters)

1. Vose, D. (2008). Risk analysis: a quantitative guide. John Wiley & Sons.
2. McNeil, A. J., Frey, R., & Embrechts, P. (2015). Quantitative risk management: Concepts, techniques and tools. Princeton university press.
3. Haimes, Y. Y. (2015). Risk modeling, assessment, and management. John Wiley & Sons.
4. Aven, T. (2015). Risk analysis. John Wiley & Sons.
5. Chapman, C., & Ward, S. (2003). Project risk management: processes, techniques, and insights. Wiley.
6. Hillson, D. (2009). Managing risk in projects. Gower Publishing, Ltd..