

Curricular Unit Form (FUC)

Course:	INDUSTRIAL ENGINEERING MANAGEMENT					
Curricular Unit (UC)	Integrated Quality and Standardisation				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		
Ivan Rodolfo P. Garcia de Galvão		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)

At the end of this curricular unit, the students should display skills and abilities enabling them to:

Objective 1: Easily integrate in Organisations adopting the Total Quality Management as a strategic objective;

Objective 2: Use Quality Tools to solve “non-quality” problems in a structured way;

Objective 3: Implement Quality Techniques in the development of new products/services and in the Continuous Improvement of existing products/services;

Objective 4: Work with other Management Systems (Environment, Safety and Health at Work, Organisations’ Social Responsibility) in an integrative perspective with the Quality Management Systems.

Syllabus (max. 1000 characters)

Evolution of Total Quality Management (TQM).
Quality Tools and Techniques - Tools and Techniques in Structured Problems Solving.
Classic Quality Tools. New
Quality Tools. Value Analysis. Failure Modes and Effects Analysis. Quality Function Deployment (QFD).
NP EN ISO 9000/9001/9004:2008 Standards - Application field of NP EN ISO 9000, 9001 and 9004 Standards. Analysis of the Requirements from NP EN ISO 9001:2008 Standard. NP EN ISO 9004:2000 Standard and TQM. Other relevant Standards.
Integration of Quality with other Management Systems - Performance Self-Assessment Models: Environmental

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Management (NP EN ISO 14001:2004 Standard). Safety and Health at Work Management (NP 4397 Standard).
Organisations' Social Responsibility Management (SA 8000 Referential).

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

Objective 1: To easily integrate in Organisations that have adopted the Total Quality Management as a strategic objective. Sections: All the items.
Objective 2: To use the Quality Tools to solve "non-quality" problems in a structured way. Sections: Quality Tools and Techniques.
Objective 3: To implement Quality Techniques in the development of new products/services and in the Continuous Improvement of existing products/services. Sections: Quality Tools and Techniques.
Objective 4: To work with other Management Systems (Environment, Safety and Health at Work, Organisations' Social Responsibility) in an integrative perspective with the Quality Management Systems. Sections: The integration of Quality and others Management Systems.

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

The sessions comprise a conceptual and an applied dimension. Each session begins with a brief reference to the items addressed in the previous session as well as the summary of the items that will be addressed in the present session.
Then, the contents are orally presented to the students, using different examples and stimulating their intervention. At the end of the session, the most relevant contents are stressed and the contents that will be addressed in the following session are established, allowing the students to study in advance the following contents. The practical sessions will be devoted to exercise solving and case study discussion. In order to enable the students to develop other analysis skills and abilities, they will work with informatic tools. The reports of the developed works will be presented and discussed in the sessions.
Evaluation: 1 Test or Exam (50%) + 1 Practical Work (50%). A minimum classification of 10 is required in the Test/Exam (0 to 20 values scale).

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

Objective 1: To easily integrate in Organisations that have adopted the Total Quality Management as a strategic objective. Methodology: Case study.

Objective 2: To use the Quality Tools to solve “non-quality” problems in a structured way. Methodology: Case study; Exercises Solving.

Objective 3: To implement Quality Techniques in the development of new products/services and in the Continuous Improvement of existing products/services. Methodology: Case study; Exercises Solving.

Objective 4: To work with other Management Systems (Environment, Safety and Health at Work, Organisations' Social Responsibility) in an integrative perspective with the Quality Management Systems. Methodology: Case study.

Main Bibliography (max. 1000 characters)

Besterfield, D.H., Besterfield-Michna, C., Besterfield, G.H. e Besterfield-Sacre, M. (1995), Total Quality Management, Prentice-Hall, London.

Block, Marilyn R. e Marash, I. Robert (2001), Integrating ISO 14001 into a Quality Management System, 2ª ed., ASQ Quality Press, Milwaukee.

NP EN ISO 14001; NP EN ISO 9000 ; NP EN ISO 9001 ; NP 4397.

Jorge, H.M. (1993), Metrologia. Método e Arte da Medição, Instituto Português da Qualidade, Centro para o Desenvolvimento e Inovação Tecnológicas, Lisboa.

Nuland, Y., Broux, G., Crets, L., Cleyn, W., Legrand, J., Majoer, G. e Vleminckx, G. (1999), Excellent a Guide for the Implementation of the EFQM Excellence Model, EFQM, Blanden.

Pires, A. Ramos (2004), Qualidade – Sistemas de Gestão da Qualidade, 3ª ed., Edições Sílabo, Lisboa.

Montgomery, D. C. (2001), Design and Analysis of Experiments, 5.ª ed., John Wiley & Sons, New York.