

<b>POLI</b> ESCOLA SUPERIOR TECNOLOGIA GESTÃO <b>TÉCNICO</b> <b>GUARDA</b>	<b>SUBJECT DESCRIPTION</b>	<b>MODELO</b> PED.013.03
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Course	<b>Equipment Design</b>					
Subject	<b>Quality, Environmental and Safety</b>					
Academic year	2023-24	Curricular year	1st	Study period	1st semester	
Type of subject	Compulsory	Student workload (H)	Total: 140	Contact: 60	ECTS	5
Professor(s)	Mestre Pedro Alexandre Nogueira Cardão					
<input checked="" type="checkbox"/> Area/Group Coordinator <input type="checkbox"/> Head of Department	(select)	<b>Professor Doutor Rui António Pitarma S. Cunha Ferreira</b>				

## PLANNED SUBJECT DESCRIPTION

### 1. LEARNING OBJECTIVES

*Understand the relationships between companies in terms of quality management, relating to strategic options;*

*Know the Portuguese quality system;*

*Create the ability to understand the use of basic techniques and tools of Quality management;*

*Understand the implementation of the quality management system;*

*Analyze fundamental techniques for the implementation and development of quality management and environmental management systems in organizations, according to the applicable legislation (NP EN ISO 9001: 2015, NP EN ISO 14001: 2015) and other safety and environmental requirements;*

*Identify the fundamental concepts and the main legislation at the level of HST;*

*Show the importance of investment in prevention in the domains of SHST; Understand the concepts associated with ecodesign*

### 2. PROGRAMME

#### 2.1 - Quality

*2.1.1 Introduction to quality, concepts and historical evolution;*

*2.1.2 Portuguese quality system;*

*2.1.3 Quality management systems and principles;*

*2.1.4 NP EN ISO 9000:2015 and NP EN ISO 9001:2015 standards;*

*2.1.5 Certification of quality management systems;*

*2.1.6 Quality Tools;*

*2.1.7 Audit benchmark for management and audit systems;*

#### 2.2 Environment

*2.2.1 Introduction. Concepts of environment, ecology, pollution and sustainable development;*

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*2.2.2 Main environmental problems on a global scale;*

*2.2.3 Introduction to Environmental Management Systems.*

*2.2.4 The international certification system (ISO 14000): The standard and requirements of the NP EN ISO 14001:2015 standard;*

*2.2.5 Introduction to the European EMAS system;*

*2.2.6 Environmental management (ISO 14000 and EMAS);*

*2.2.7 Analysis of environmental legislation;*

### **2.3 Health and safety at work**

*2.3.1 Introduction - general notions of hygiene, safety and health at work;*

*2.3.2 Legal framework for safety and hygiene at work;*

*2.3.3 Risk management and assessment;*

*2.3.4 Safety of machinery and work equipment;*

*2.3.5 Protection devices: selection and characteristics.*

*2.3.6 Safety signs*

### **2.4 Introduction to Ecodesign**

*2.4.1 Ecodesign*

*2.4.2 The importance of ecodesign*

*2.4.3 Life cycle approach;*

*2.4.4 How to do ecodesign.*

## **3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES**

*The objectives of the curricular unit correspond to the details of the subjects to be taught in the program content and, in particular, issues related to the implementation and development of quality management systems, environmental management and hygiene and safety at work in organizations.*

## **4. MAIN BIBLIOGRAPHY**

*- Apontamentos do Professor Pedro Cardão, 2023;*

*- Cabral, F., Veiga, R., (2002) Higiene, Segurança e Prevenção de Acidentes de Trabalho, Verlag, Dashofer.*

*- Donnaire, D. (1995). Gestão ambiental na empresa. Brasil, Editora Atlas;*

*- Fey, R. e Gogue, J. (1983). Princípios da Gestão da Qualidade. Lisboa. Fundação Calouste Gulbenkian;*

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- Miguel, A. S. S. R., (2014). *Manual de higiene e segurança no trabalho*, Porto Editora.
- NP EN ISO 9001:2015 – *Sistema de Gestão da Qualidade: requisitos (ISO 9001:2015)*. Caparica: IPQ;
- NP EN ISO 14001:2015 - *Sistemas de gestão ambiental. Requisitos e linhas de orientação para a sua utilização (ISO 14001:2015)*. Caparica: IPQ;
- Pinto, A. (2018). *ISO 14001:2015 Gestão Ambiental, Guia Prático*. Lisboa: Lidel;
- Pires, A. R. (2016). *Qualidade. Sistemas de Gestão da Qualidade*. Lisboa: Edições Sílabo;
- Regulamento (CE) Nº 1221/2009 do Parlamento Europeu e do Conselho de 25 de novembro de 2009 - *Regulamento EMAS (Sistema comunitário de ecogestão e auditoria)*.

## 5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

*Given the syllabus of the course it is necessary to implement some teaching methodologies that allow students learning and establish interaction with the teacher on the taught subjects.*

*Thematic debate sessions are held to promote the participation of all students.*

*The teaching method is based on expository and narrative method. Regularly it is also use the learning method based on Case Study.*

*The evaluation can be continuous or by exam, in normal or recourse period.*

*The evaluation of the curricular unit will be carried out through practical application works and the corresponding presentation (25%), class questions and exercises (5%) and an examination (70%).*

*The examination and the appeal examination will be on a date set by the school. The student obtains approval if the final mark, resulting from the weighting of the practical works and the exam is equal or greater than 10/20 values. The presence in classes will have a maximum bonus of one value in the final mark.*

*Practical work is mandatory, but is only counted for continuous assessment by frequency.*

*Students who do not perform the practical work will have to obtain a grade equal or higher than 10/20 in the exam or in the appeal exam.*

## 6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

*The expository method is used to present the fundamental contents associated with all objectives. The methodology of practical work (class questions and exercises) allows the student to apply, throughout the semester and in a practical mode, applying Portuguese legislation, the contents covered. In this way we seek to motivate students for the active learning*

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*of theoretical and practical knowledge, by conducting case studies that validate their applicability in a professional context. The methodology thus seeks to encourage students to develop a demanding work, compatible with the requirements in labor market, according to the Portuguese Legislation.*

## 7. ATTENDANCE

*Lectures attendance is not compulsory.*

## 8. CONTACTS AND OFFICE HOURS

E-mail: [pcardao@ipg.pt](mailto:pcardao@ipg.pt)

Cabinet No: 15

Service hours: **Wednesday: 14:00 - 16H00**

## DATE

18 de Setembro de 2023

## SIGNATURES

*Professor(s), Area/Group Coordinator or Head of Department signatures*

Professor

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(signature)

Area/Group Coordinator

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(signature)