

POLI ESCOLA SUPERIOR TECNOLOGIA GESTÃO TÉCNICO GUARDA	SUBJECT DESCRIPTION	MODELO PED.013.03
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Course	Mechanics and Industrial Informatics					
Subject	Industrial Maintenance					
Academic year	2023/2024	Curricular year	3rd	Study period	1st semester	
Type of subject	Elective	Student workload (H)	Total: 148.5	Contact: 60	ECTS	5.5
Professor(s)	José Manuel Gonçalves Marques					
<input checked="" type="checkbox"/> Area/Group Coordinator <input type="checkbox"/> Head of Department	(select)	José Reinas dos Santos André				

PLANNED SUBJECT DESCRIPTION

1. LEARNING OBJECTIVES

Provide students with skills that allow them to manage maintenance in the industry, namely:

- Recognize general maintenance concepts;*
- Link maintenance with quality;*
- Carry out maintenance planning;*
- Interpret work orders and prepare service reports;*
- Know the equipment and its functions;*
- Identify and characterize the different procedural typologies;*
- Identify the main lubrication, maintenance and calibration techniques;*
- Identify diagnostic and repair techniques;*
- Plan maintenance using computer programs.*
- Define TPM (Total Productive Maintenance).*

2. PROGRAMME

General concepts of industrial maintenance: concepts; applications; cost-benefit ratio; types of jobs; diagnostic and repair techniques.

Types of maintenance: generalities; corrective maintenance; preventive; conditional and improvement.

Maintenance costs: general; direct costs; indirect costs and cost iceberg.

Reliability and productivity: introduction to reliability; maintainability and availability; degree of criticality of equipment, priorities; Productivity indicators (MTBF, MTTR and availability).

Maintenance organization: organization of the equipment park; from the technical file; coding and standardization; the history of breakdowns and interventions; intervention reports and historical record.

Planning and programming applied to maintenance (objectives, phases, tools and techniques): generalities; PERT, GANTT and CPM techniques; work orders and materials management.

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Philosophies used in maintenance management: Generalities; TPM (total productive maintenance); RCM (Reliability Based Maintenance).)

3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

The syllabus developed aim to provide the student with knowledge in industrial maintenance in order to integrate him into the world of work. In particular, the contents aim to prepare students and make them aware of the need to 'know how to do', in the instrumental and operational domain. The syllabus outlined will also allow the student, independently, to be able to productively develop their activity in the field of industrial maintenance applying the concepts learned.

4. MAIN BIBLIOGRAPHY

Pinto, João; (1997). Organização e Gestão da Manutenção. Porto. Cenertec.

Cabral, João Paulo Saraiva; (2006). Organização e Gestão da Manutenção, dos conceitos à prática. Lisboa. Lidel.

Pinto, Carlos Varela; (2002). Organização e Gestão da Manutenção. Lisboa. Monitor.

Assis, Rui; (2004). Apoio à Decisão em Gestão da Manutenção. Fiabilidade e Manutenibilidade. Lisboa. Lidel.

Pinto, Carlos Varela; (1986). Introdução ao Planeamento da Manutenção em Empresas Industriais. Lisboa. Datinvest.

Cuignet, Renaud; (2006). Gestão da Manutenção. Lisboa. Lidel.

Farinha, J. M. Torres; (2011). Manutenção - A Terologia e as Novas Ferramentas de Gestão. Lisboa. Monitor.

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

Methodology The syllabus emphasizes the interconnection between the theoretical and practical components. The theoretical aspects presented by the expository, demonstrative and interrogative method with the support of the board or using the projection of slides will be, whenever possible, explored in practice.

During the semester, students are proposed to carry out project and essentially practical group work. It is intended to encourage aspects related to practice, so that learning develops towards future professional activities with group work and demonstrations. The referred works include the elaboration of reports for evaluation.

Classification: Final Exam (50%); practical component (50%).

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6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

In order to achieve the proposed objectives, the methodology in the curricular unit is based on theoretical and practical training principles. The pedagogical methods and techniques to be applied during the sessions with interconnection between the expository, interrogative and demonstrative technique; method of group interaction, with the teacher being responsible for reinforcing learning and coordinating the various actions.

7. ATTENDANCE

NA

8. CONTACTS AND OFFICE HOURS

Teacher:

Area Coordinator: Prof. Doutor José Reinas dos Santos André; jandre@ipg.pt; room n.º 13

9. OTHERS

DELETE SECTION 9. IN COMPLETED SUBJECT DESCRIPTION

DATE

18 de setembro de 2022

SIGNATURES

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

Assinatura na qualidade de (clicar)

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