

16. Evaluate advanced logistics project aspects like cost/benefit ratio, safety, impact, threats, maintenance, etc.)

Functional Area: Op&Log

Assessment criteria

Knowledge

LO16.1. Determines the operational costs of a mechatronic system, analyses and interprets the results of the process/operational control charts and operates in accordance with quality systems.

- Determines the operations costs, identifying and calculating the times of configuration, optimization, monitoring, assembly or maintenance in mechatronic systems.
- Detects deviations in automatic processes, analyzing and interpreting process control charts and/or operations
- Acts in accordance with quality procedures and standards associated with the professional profile competences, relating them to quality systems and models.

- Maintenance mechanization, assembly, commissioning, and supervision time calculation.
- Preparation time and manual operation
- The cost calculation attributed to the operations time.
- Costs calculation rigour.
- Operational or process control charts interpretation.
- Process capacity concept and index that values it.
- Interpreting criteria for control graphs.
- Purpose and consequences of standardized times.
- Interest in providing technical solutions to problems
- Quality register complementation
- Fundamental concepts of quality systems.
- Standards applicable to the process inherent in this professional figure.
- Personal initiative to provide ideas and agree on procedures.
- Intervention in quality management systems and models
- Rules applicable to the process inherent in this professional figure.
- Personal initiative to provide ideas and agree on procedures

Skills

	<ul style="list-style-type: none">• Identify variables involved in the assembly and mechatronic systems maintenance.• Calculates the time of operations phases.• Identifies non-productive times of mechatronics operations using standard tables.• Estimate the cost of the product through the associated documentation.• Relates process efficiency to production costs.• Does the calculations with rigour and accuracy.• Relates the concept of process capacity and indexes that evaluate to process adjustment interventions.• Interpret the alarms or evaluation criteria of the control charts used• Breaks down work processes into elements, analyzes tasks and applies time.• Explain the factors that can influence the length of each item.• Distinguishes the different types of charts depending on their application.• Explains the control limit value.• Identifies the rules and procedures related to the manufacturing or control process.• Fill in the documents associated with the process.• Assesses the influence of quality standards on the whole process.• Explains the quality systems characteristics and models that affect the technological process of this professional profile.• Assesses the influence of quality standards on the whole process.• Identifies the rules and procedures related to the manufacturing or control process.• Fill in the documents associated with the process.• Maintains an orderly and methodical attitude.
--	--

	Transferable skills
	<ul style="list-style-type: none"> • Understand descriptions, specifications, manuals and other info typical of the profession in English and prepare them for the next phase of project/Customer in understandable manner. • Ability to communicate effectively, orally and in writing with “engineering” community and with “society”, extrapolating concepts for “non-experts) through an abstraction approach.

16. Evaluate advanced logistics project aspects like cost/benefit ratio, safety, impact, threats, maintenance, etc.)

Functional Area: Op&Log/QA

Assessment criteria	Knowledge
<p>LO16.2. Applies preventive and/or predictive maintenance techniques to industrial pollutant treatment equipment, performing maintenance operations, diagnosing and using monitoring techniques.</p> <ul style="list-style-type: none"> • Establishes the stages in a maintenance process of industrial equipment for the environmental pollutants treatment, analyzing the technical documentation, the safety plan and the instruction manuals, applying programming techniques and establishing procedures for monitoring and controlling execution. • Elaborates the spare parts catalog and the management and provisioning program, establishing the storage conditions of the components, tooling, materials and equipment for the treatment of emissions, dumping and waste. • Diagnoses breakdowns in control equipment emissions and production process waste treatment, identifying the nature of the matter, and performing the necessary corrective interventions to eliminate dysfunction and restore functioning. 	<ul style="list-style-type: none"> • Description of the types of pollutants (emissions, discharges, waste, water and energy). • Analysis of existing environmental practices and procedures • Air, waste water and solid waste material treatment equipment. • The main pollutants description. • Pollutants measurement and monitoring. • Pollutant emission sources continuous measurement. • SAM automatic measuring system • Management methodology ISO 14001-2015 EMAS • Causes of non-conformities and environmental accidents • Equipment history register • Legislative requirements, environmental standards

<ul style="list-style-type: none"> Integrates and launches industrial communications to SAM automatic emission metering systems, fulfilling operating conditions. 	<ul style="list-style-type: none"> Environmental assessment instruments Amount of pollutants that can be emitted by an industrial company. Parameter capture and correction action for out-of-range data. Control and inspection.
	<p>Skills</p>
	<ul style="list-style-type: none"> Identifies circuits, auxiliary elements and components of equipment and installations. Determines the activities of predictive and preventive maintenance to be performed on environmental treatment equipment Select the necessary equipment, and tools. Indicates and establishes the sequencing of the commissioning, assembly and maintenance operations. Defines the assembly and maintenance plan stages, and the materials required for the installation. Represents the diagrams of manpower, materials and means, optimizing the terms and resources. Prepares the maintenance interventions register. Apply the safety regulations during the execution of the process Documentarily makes specific planning, determining activities and resources. Identify the elements and quantities of each unit of work for the preparation of budgets. Classifies the units of work involved in the installation, details the discounted prices and obtains the total amount It breaks down the annual costs of preventive-corrective and predictive maintenance

	<ul style="list-style-type: none"> • Applies maintenance management software. • Determines the ways of provisioning and storage in relation to the needs of maintenance plans. It sets the storage criteria as well as the spare levels. • Identifies the typology and symptoms characteristics of the most common breakdowns that may occur in an automated equipment management system for industrial waste. • Defines the general procedure that will be used to diagnose and locate breakdowns in the different systems (from each system independently and integrating all or some of them) in the automated production waste treatment processes. • Find the breakdown responsible element. • Determines the types of communication in the European market based on the technical requirements characteristics. • Checks and / or selects the elements of the system, from the necessary commercial technical catalogs and calculations. • Anticipates the emergency situations that may occur in the systems. • Document the installation and commissioning procedures for the installation. • Assemble and connect the elements and networks of mechanical, electrical, pneumatic and / or hydraulic and control systems, with the established quality and safety conditions • Achieves the correct operational at start-up by regulating and controlling the physical variables that affect the system.
	<p>Transferable skills</p>
	<ul style="list-style-type: none"> • Understand descriptions, specifications, manuals and other info typical of the profession in English and prepare them for

	<p>the next phase of project/Customer in understandable manner.</p> <ul style="list-style-type: none"> • Ability to communicate effectively, orally and in writing with “engineering” community and with “society”, extrapolating concepts for “non-experts) through an abstraction approach.
--	--

16. Evaluate advanced logistics project aspects like cost/benefit ratio, safety, impact, threats, maintenance, etc.)

Functional Area: Op&Log/QA

Assessment criteria	Knowledge
<p>LO16.3. Applies protection and prevention measures, analysing risk situations in the labour setting of the Higher Technician in Industrial Mechatronics.</p> <ul style="list-style-type: none"> • Defines actions to facilitate the implantation and maintenance of occupational risk prevention systems and interprets their concepts and basic factors. 	<ul style="list-style-type: none"> • Provisions and regulations at the state, regional or local level that affect the sector and the company’s activities. • The risks prevention in the internal rules of companies. • Functional areas of the company related to prevention. • The prevention organization in the company. ISO 45001:2018 • Promotion of the risk prevention culture as a model of business policy • Risks, prevention and protection measures, and emergency plans specific to the activities of the sector • Norms classification by activity sector and type of risk. • Personal protective equipment in relation to the dangers they protect. • Risk assessment. • Risks sources. • Conservation and maintenance standards. • Self-protection plans.

	<p>Skills</p>
	<ul style="list-style-type: none"> • Identifies the foundations, principles and legal requirements established in the occupational risk prevention systems. • Explains through the diagrams and flowcharts the occupational risk prevention functional structure in a typical company. • Describes the requirements and procedure that should be included in an internal audit of occupational risk prevention. • Describes the minimum requirements that must be contained in the document system for occupational risk prevention and its control. • Describe the techniques for promoting occupational risk prevention. • Describes the characteristics and requirements of preventive and individual and collective protection measures, and emergency plans for companies in the sector. • Determines the risks associated with a production means in companies in the sector. • Describe the elements that make up an emergency plan at the company level. • Classifies personal protective equipment in relation to the dangers they protect • Describes the personal protective equipment maintenance, conservation and replacement operations. • Describe the occupational risk prevention promoting techniques.
	<p>Transferable skills</p>
	<ul style="list-style-type: none"> • Understand descriptions, specifications, manuals and other info typical of the profession in English and prepare them for the next phase of project/Customer in understandable manner. • Ability to communicate effectively, orally and in writing with “engineering” community and with

	<p>“society”, extrapolating concepts for “non-experts) through an abstraction approach.</p>
--	---