EUROPASS SUPPLEMENT TO THE CERTIFICATE OF THE HIGHER DEGREE SPECIALIZATION COURSE

NAME OF THE SPECIALIZATION COURSE

Specialization Course of Higher Vocational Training in Railway Signaling and Telecommunication Systems

DESCRIPTION OF THE SPECIALIZATION COURSE

The holder has acquired the general competence relating to:
To organize, plan, supervise and execute the assembly and advanced maintenance of railway signaling and telecommunications systems, applying current regulations, following quality, safety, occupational risk prevention and environmental protection and respect protocols.

Within this framework, each PROFESSIONAL MODULE includes the following LEARNING OUTCOMES acquired by the holder.

"Railway telecommunications systems".
The titleholder:

- Characterizes railway telecommunication systems, identifying installations, equipment and elements that form them.
- Configures railway telecommunications installations, drawing plans and diagrams and defining their structure, equipment and general wiring.
- Plans the assembly and disassembly of railway telecommunications systems, determining and quantifying human and material resources to manage them.
- Performs assembly and disassembly operations of telecommunications systems integrating elements and equipment for their commissioning.
- Verifies the operation of railway telecommunications systems, detecting and locating faults and malfunctions.
- Plans the maintenance of railway telecommunications systems, analyzing and selecting the different types of plans.
- Performs maintenance operations configuring elements and equipment of railway telecommunications systems according to established protocols.
- Applies rules on occupational risk prevention of railway telecommunications systems, identifying occupational hazards associated with the assembly, disassembly and maintenance and the measures and equipment to prevent them.

"Railway signaling and safety systems infrastructure".
The titleholder:

- Characterizes equipment and components of the railway signaling and safety systems infrastructure, relating them to their functionality.
- Configures the structure, equipment and general wiring of the infrastructure of railway signaling and safety systems, drawing general layout plans and electrical and electronic diagrams.
- Plans the assembly and disassembly of railway signaling and safety systems infrastructure, determining and quantifying the human and material resources to manage them.
- Performs assembly and disassembly operations of signaling and railway safety systems infrastructure, integrating equipment and elements.
- Verifies the operation of the equipment and components of the signaling systems infrastructure and railway safety, identifying and locating faults and malfunctions.
- Performs maintenance operations configuring elements and equipment of the infrastructure of signaling and railway safety systems in accordance with established protocols.
- Applies occupational risk prevention standards for the infrastructure of signaling and railway safety control systems, identifying the occupational hazards associated with assembly, disassembly and maintenance and the measures and equipment to prevent them.

"Rail traffic control and management systems".

The titleholder:

- Characterizes control, command, signaling and railway traffic management systems, describing functions and identifying spaces, equipment and elements that integrate them.
- Determines the equipment of control centers for safety and railway traffic management facilities, planning their distribution, drawing up plans and diagrams and identifying the technical and regulatory requirements.
- Commissions the computer systems of control centers of safety and railway traffic management facilities, installing, updating and configuring specific hardware and software.
- Diagnoses and locates faults in control, command, signaling and railway traffic management systems, analyzing its causes and effects.
- Plans the maintenance of railway traffic control, command, signaling and management systems, determining and quantifying the human and material resources to manage them.
- Performs maintenance operations of control, command, signaling and railway traffic management systems, selecting the type of plan according to the established protocol.
- Verifies the operation of control, command, signaling and railway traffic management systems, applying predictive maintenance techniques and using Condition Based Maintenance (CBM) tools.
- Applies the regulations on occupational risk prevention for control, command, signaling and railway traffic signaling management systems, identifying the occupational hazards associated with maintenance and commissioning and the measures and equipment to prevent them.

"Railway signaling and safety regulations".

The titleholder:

- Selects the legal provisions applicable to rail transport, analyzing the general regulatory framework of the railway sector.
- Identifies, according to regulations, the functions and competences of the main bodies, institutions and entities related to railway safety, determining the responsibility of railway agents.
- Identifies the essential requirements to be met to ensure the interoperability of the railway system, interpreting the related technical regulations.
- Selects the regulatory regulations for railway traffic applying them to the railway signaling and telecommunications infrastructure.
- Identifies the technical regulations on railway safety, applying their provisions in the assembly, disassembly and maintenance plans for signaling, safety and railway telecommunications systems.

"Workplace training".

The titleholder

- Identifies the structure and organization of the company, relating them to the maintenance of railway signaling and telecommunications systems.
- Applies ethical and work habits in the development of his professional activity, in accordance with the characteristics of the work position and with the procedures established in the company.
- Diagnoses failures of railway signaling and telecommunications systems by interpreting the indications or values of operating parameters and analyzing causes and effects.
- Determines the corrective and preventive maintenance techniques for signaling systems and telecommunications, performing operations and interpreting maintenance plans.
- Supervises the performance of corrective and preventive maintenance of railway signaling and telecommunications systems, verifying the operability of equipment and systems.

JOBS THAT CAN BE PERFORMED WITH THIS SPECIALIZATION COURSE

The most relevant occupations and jobs are as follows:

- Technical manager of signaling installations.
- Technical manager of telecommunications installations.
- Technical manager of remote-control installations.
- Technician in planning and scheduling of maintenance processes of security installations.

- Technician in planning and programming of maintenance processes of telecommunication systems.
- Team leader of security installations assemblers.
- Team leader of security installation maintainers.
- Team leader of telecommunication systems assemblers.
- Telecommunications systems maintenance team leader.
- Security installations sector manager.
- Telecommunications sector manager.
- Electrical assembler of security installations with specialization.
- Telecommunications officer with specialization.
- Assistant technician.
- Responsible for maintenance and control.

CERTIFICATE ISSUANCE, ACCREDITATION AND LEVEL

Body issuing the certificate of the higher degree specialization course on behalf of the King: Ministry of Education and Vocational Training or the autonomous communities within the scope of their own competences. The certificate has academic and professional effects valid throughout the State.

Official course duration: 600 hours.

Certificate level (national or international).

- NATIONAL: Non-university higher education.
- INTERNATIONAL:
  - Level P-5.5.4 of the International Standard Classification of Education (ISCED-5.5.4).
  - Level 5C of the European Qualifications Framework (EQF 5C).

Access requirements:
To access the Specialization Course in Railway Signaling and Telecommunications Systems it is necessary to hold one of the following degrees:

a) Degree of Higher Technician in Development of Thermal and Fluids Installations Projects, established by Royal Decree 219/2008, of February 15.
b) Degree of Higher Technician in Maintenance of Thermal and Fluids Installations, as established by the Royal Decree 220/ 2008, of February 15.
c) Degree of Higher Technician in Administration of Networked Computer Systems established in the Royal Decree 1629/2009, of October 30.
d) Degree of Higher Technician in Telecommunication and Computer Systems, established by the Royal Decree 883/2011, of June 24.
e) Degree of Higher Technician in Electronic Maintenance, established by Royal Decree 1578/2011, of November 4.
f) Degree of Higher Technician in Automation and Industrial Robotics, established by Royal Decree. 1581/2011, of November 4.

Legal Basis. Regulations establishing the specialization course in Railway Signaling and Telecommunications Systems:
Minimum teaching requirements established by the State: Royal Decree175/2021, of March 23, which establishes the specialization course in Railway Signaling and Telecommunication Systems and the basic aspects of the curriculum are established.

Explanatory note: This document is intended as additional information to the title in question, but has no legal validity whatsoever.

TRAINING OF THE OFFICIALLY RECOGNIZED SPECIALIZATION COURSE

PROFESSIONAL MODULES OF THE ROYAL DECREE OF T H E HIGHER-LEVEL SPECIALIZATION COURSE	ECTS CREDITS
Railway telecommunications systems	10
Railway signaling and safety systems infrastructure	7
Rail traffic control and management systems	7
Railway signaling and safety regulations	6
Workplace training	6
	TOTAL CREDITS
	36
OFFICIAL DURATION OF THE SPECIALIZATION COURSE CERTIFICATE (HOURS)	***600***

* The minimum teaching requirements for the specialization course reflected in the table above, 50%, are valid throughout the national territory. The remaining 50% belongs to each Autonomous Community and may be reflected in **Annex I** of this supplement.

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INFORMATION ABOUT THE EDUCATION SYSTEM