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CERTIFICATE SUPPLEMENT (*)

Austria

1. TITLE OF THE CERTIFICATE (DE) (1)

Lehrabschlussprüfungszeugnis Elektrotechnik – Anlagen- und Betriebstechnik

(1) in original language

2. TRANSLATED TITLE OF THE CERTIFICATE (EN) (2)

Certificate of Apprenticeship "Electrical Engineering specialising in Plant and Industrial Engineering" (f/m)

(2) This translation has no legal status.

3. PROFILE OF SKILLS AND COMPETENCES

Specialist areas of competence:

Basic module

- Basics of electrical engineering
- Electrical systems and machines
- Automation and systems engineering

Main module 'Plant and Industrial Engineering'

The specialist in electrical engineering specialising in plant and industrial engineering is entrusted with the assembly, testing, documentation and commissioning of electrical systems in machines or production plants. These include, for example, machine tools and production machines, conveyor systems, packaging and robot systems, production and assembly lines and storage systems. The specialist is also responsible for the automation of these systems and for making changes and extensions to them.
In addition, the specialist is responsible for the technical support of electrical systems in machines or production plants. This includes ongoing maintenance as well as the systematic localisation, detection and rectification of faults, defects and malfunctions.
In order to carry out work professionally, the specialist reads electrical drawings and plans, and works with many types of hand tools, hand-held machines and measuring devices while complying with safety regulations and safety standards.
His/her area of responsibility also includes setting up, testing and documenting protective measures to prevent personal injury and damage to property. This means that the specialist has significant responsibility for safety in companies.

Training courses in one of the following special modules can be provided in addition to the basic and main module, with the aim of offering more in-depth know-how and specialisation.

Special module 'Smart Home'

The specialist in electrical engineering specialising in smart home is entrusted with the setting up, programming, testing, documentation and commissioning of building system technology installations using smart home technologies. These include, for example, lighting, shading, sound, alarm, energy management and remote access systems. He/she also makes modifications and extensions to these systems as part of smart home technology.
He/she is also responsible for the technical support of these systems. This includes, in particular, the systematic localisation, detection and rectification of faults, defects and malfunctions.

Special module 'Building Technology'

The tasks of the specialist in electrical engineering specialising in building technology include the setting up, programming, testing, documentation and commissioning of building system technology installations, in particular for air conditioning, heating and ventilation systems. He/she also makes modifications and extensions to building system technology installations.
He/she is also responsible for the technical support of these installations. This includes ongoing maintenance as well as the systematic localisation, detection and rectification of faults, defects and malfunctions.

Special module 'Renewable Energies and Electromobility'

The primary area of responsibility of the specialist in electrical engineering specialising in renewable energies and electromobility is the assembly of panels in the corresponding brackets, the installation, testing, documentation and commissioning of systems for generating and storing renewable energies (such as photovoltaic and wind power plants

as well as energy storage systems) and of equipment for charging electric vehicles. He/she also makes modifications and extensions to systems for the generation and storage of renewable energies.
He/she is also responsible for technical support here. This includes, in particular, the systematic localisation, detection and rectification of faults, defects and malfunctions.

Special module 'Network Technology'
The specialist in electrical engineering specialising in network technology is involved in setting up, testing, documenting and commissioning industrial networks (taking into account environmental and infrastructural requirements) as well as integrating components (e.g. machines, visualisation systems, sensors, actuators). He/she also makes modifications and extensions to industrial networks.
He/she is also responsible for the technical support of industrial networks and their components. This includes ongoing maintenance as well as the systematic localisation, detection and rectification of faults, defects and malfunctions.

Special module 'Electrical Engineering for Railways'
The field of activity of the specialist in electrical engineering specialising in electrical engineering for railways includes the setting up, assembly, testing, documentation and commissioning of power engineering systems, traction current, telecontrol technology and switching systems, taking into account the relevant protective measures and the special employee protection regulations in railway operations.
He/she is also responsible for the technical support of these installations and systems. This includes recurring inspections (e.g. of point heating systems), ongoing maintenance, but also the systematic localisation, detection and rectification of faults, defects and malfunctions and the initiation of immediate measures that have to be taken by other experts (e.g. service technicians).

Special module 'Rail Safety Technology'
The specialist in electrical engineering specialising in rail safety technology is entrusted with the production, assembly, testing, documentation and commissioning of rail safety technology systems (such as train protection systems, railway crossings) in compliance with the special employee protection regulations in railway operations and relevant protective measures in the area of railway power supply systems.
He/she is also responsible for the technical support of rail safety technology systems. This includes recurring inspections (e.g. of railway crossing safety systems or point machines), ongoing maintenance, but also the systematic localisation, detection and rectification of faults, defects and malfunctions and the initiation of immediate measures that have to be taken by other experts (e.g. service technicians).

Special module 'Railway Vehicle Technology'
The field of activity of the specialist in electrical engineering specialising in railway vehicle technology includes the visual and acoustic inspection of the vehicle (e.g. brakes, brake system components, compliance with the clearance gauge), the inspection of loading safety and the inspection of freight wagons and passenger carriages in compliance with the special employee protection regulations in railway operations and relevant protective measures in the area of railway power supply systems.
The tasks of the specialist also include the technical support of freight wagons or passenger carriages. This includes recognising, assessing and (if necessary) initiating further measures as well as carrying out inspection, removal, assembly, repair and maintenance work on the freight wagon or passenger carriage (such as carrying out minor repairs, replacing parts).

Special module 'Railway Transport Engineering'
The specialist in electrical engineering specialising in railway transport engineering is entrusted with upgrading and commissioning traction units (electric or diesel traction units) in compliance with the safety-related service regulations for railway operations (such as signal book and operating regulations). This also includes operating relevant safety equipment (dead-man's vigilance device – DVD) on traction units and responding to messages from train control systems (e.g. intermittent automatic train running control – PZB, European Train Control System – ETCS) and safety equipment on the line (e.g. hot axle box detectors).
He/she is also responsible for appropriate communication with customers, in particular with the operations service (verbally or visually via displays), with the train crew and with travellers.

Special module 'Railway Vehicle Maintenance Technology'
The main area of responsibility of the specialist in electrical engineering specialising in railway vehicle maintenance technology is the performance of testing, dismantling, assembly, repair and maintenance work on railway vehicles, taking into account the particular hazards involved when handling railway vehicles. This work is based on reading out and assessing faults in railway vehicles using computer-aided diagnostic methods as well as localising, searching for and assessing other faults in railway vehicles.
The specialist is also responsible for the technical support of network systems. This also includes systematic localisation, detection and rectification of faults, defects and malfunctions. As part of the assembly, repair and maintenance work, he/she uses various (also additive) manufacturing processes.

Special module 'Railway Operations Technology'
The specialist in electrical engineering specialising in railway operations technology is entrusted with setting routes using mechanical, electrical and electronic signal box systems and with carrying out start-finish operations. His/her

tasks also include reacting to unforeseen situations (such as the failure of safety systems) in coordination with the train dispatcher and operating operational communication equipment, railway power supply systems and safety systems (e.g. setting points and the corresponding signals) with confidence.
He/she is also responsible for appropriate communication with customers, in particular with train dispatchers and train drivers (verbally or visually via displays) and necessary announcements (e.g. announcing deviations, passing on information about work on the line to travellers or people). In addition, he/she is responsible for implementing operational safety measures, ensuring operational safety in his/her own area of activity as well as in the delegated sphere of activity and for ensuring the safety of customers when using the facilities in the operating area.

Interdisciplinary areas of competence:

- Working in an operational and professional environment
- Quality oriented, safe and sustainable work
- Digital work

4. RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE CERTIFICATE (3)

Range of occupations:
Employment including in enterprises of the crafts, trades and industry of all sectors, in enterprises of the crafts, trades and industry of electrical engineering and electrical installations, in machine and plant construction enterprises, in maintenance and service enterprises, as well as in transport companies, energy supply companies

(3) if applicable

(*) **Explanatory note**

This document has been developed with a view to providing additional information on individual certificates; it has no legal effect in its own right. These explanatory notes refer to the Decision (EU) no. 2018/646 of the European parliament and the Council of 2 May 2018 on a common framework for the provision of better services for skills and qualifications (Europass).

More information on Europass is available at: http://europass.cedefop.europa.eu or www.europass.at

5. OFFICIAL BASIS OF THE CERTIFICATE

Name and status of the body awarding the certificate	**Name and status of the national/regional authority providing accreditation/recognition of the certificate**
Lehrlingsstelle der Wirtschaftskammer (Apprenticeship Office of the Economic Chamber; for the address, see certificate)	Bundesministerium für Arbeit und Wirtschaft (Federal Ministry of Labour and Economy)
Level of the certificate (national or international) NQF/EQF 4 ISCED 35	**Grading scale / Pass requirements** Overall performance: Pass with Distinction Good Pass Pass Fail
Access to next level of education/training Access to the *Berufsreifeprüfung* (i.e. certificate providing university access for skilled workers) or a vocational college for people under employment. Access to relevant courses at a *Fachhochschule* (i.e. university level study programme of at least three years' duration with vocational-technical orientation); additional examinations must be taken if the educational objective of the respective course requires it.	**International agreements** Between Germany, Hungary, South Tyrol and Austria, international agreements on the mutual automatic recognition of apprenticeship-leave examinations and other vocational qualifications have been concluded. Information on equivalent apprenticeship occupations can be obtained from the Federal Ministry of Labour and Economy.

Legal basis

1. Training Regulation for Electrical Engineering BGBl. II (Federal Law Gazette) No. 386/2023 (company-based training)
2. Curriculum framework (education at the vocational school for apprentices)
3. The present apprenticeship trade replaces the apprenticeship trade Electrical Engineering (Training and Examination Regulation BGBl. II (Federal Law Gazette) No. 195/2010 as amended by BGBl. II (Federal Law Gazette) No. 148/2018), which expires as of 31 of December 2024.
4. The apprenticeship Electrical Engineering has been set up as a modular apprenticeship. Following the basic and main module, there exists the option to provide training in a special module (see 3. profile of skills and competences) or an additional main module. The additional main module is Automation and Process Control Engineering. Information about the modules is provided in the Certificate of Apprenticeship.

6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE

1. Training in the framework of the given Training Regulation for Electrical Engineering and of the curriculum of the vocational school for apprentices. Admission to the final apprenticeship examination upon completion of the apprenticeship period specified for the apprenticeship trade concerned. The final apprenticeship examination aims to establish whether the apprentice has acquired the skills and competences required for the respective apprenticeship trade and is able to carry out the activities particular to the learned trade herself/himself in an appropriate manner.
2. Admission to the final apprenticeship examination in accordance with Article 23 (5) of the *Berufsausbildungsgesetz* (Vocational Training Act). An applicant for an examination is entitled to sit the final apprenticeship examination without completing a formal apprenticeship training if she/he has reached 18 years of age and is able to prove acquisition of the required skills and competences by means of a relevant practical or an on-the-job training activity of appropriate length, by attending relevant courses etc.

Additional information:

Entry requirements: successful completion of 9 years of compulsory schooling

Duration of training: Basic module and main module: 3.5 years; basic module, main module and special module: 4 years; basic module and two main modules: 4 years.

Enterprise-based training: Enterprise-based training comprises $^{4}/_{5}$ of the entire duration of the training and focuses on the provision of job-specific skills and competences according to Article 3 of the Training Regulation, BGBl. II (Federal Law Gazette) No. 386/2023, enabling the apprentice to exercise qualified activities as defined by the profile of skills and competences specified above (cf. job profile).

Education at vocational school: School-based education comprises $^{1}/_{5}$ of the entire duration of the training. The vocational school for apprentices has the tasks of imparting to apprentices the basic theoretical knowledge, of supplementing their enterprise-based training and of widening their general education in the framework of subject-oriented part-time instruction.

More information (including a description of the national qualification system) is available at:
www.zeugnisinfo.at and www.edusystem.at

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