

**1. TITLE OF THE PROFESSION**

06194006 Távközlési és informatikai hálózatszerelő

2. TRANSLATED TITLE OF THE PROFESSIONTelecommunication and IT network constructor
(THIS TRANSLATION HAS NO LEGAL STATUS)**3. PROFILE OF SKILLS AND COMPETENCES**

- Test and use equipment based on physical and electrical engineering laws and models related to telecommunications;
- Use measuring instruments, check their functionality and validity (cable meters, spectrum analysers, attenuation meters, multimeters);
- Qualify the deployment of a given endpoint, measure its parameters with the help of instruments (signal level, attenuation);
- Interpret and follow technical specifications, design documentations, installation manuals and instructions for the use of measuring instruments (even in English). Able to recognise and use calculations and specifications of designers that are applicable to networks in practice or feasible for implementation;
- Set up and operate wired (LAN, eth) and wireless (WLAN, WiFi) computer networks and perform security configuration on these;
- Prepare traffic control and routing devices used in infocommunications networks, set up, implement and improve their basic configurations while taking into account customer requirements;
- Accurately assemble connectors for fibreglass and copper-based cables. Perform special fibre optic welds;
- Install terrestrial and satellite microwave PtP and PtMP antennas on poles, towers and building roofs. Able to use network planning applications to obtain detailed technical design information;
- Ensure the (uninterruptible) power supply of telecommunications equipment;
- Install, use and update applications that can be run on mobile devices (satellite positioning and search, manufacturers' programmes for remote access and management of IT devices).

**4. CLASSIFICATION OF THE VOCATIONAL TRAINING ACCORDING TO THE ISCED
FIELDS OF EDUCATION AND TRAINING (ISCED-F)**

0619 Information and communication technologies n.e.c.

(*) Explanatory notes:

¹ In the original language. | ² The translation of the designation is provided for information purposes only. | ³ Fill it out if necessary. The certificate supplement provides additional information on the qualification but have no legal value in itself. The format of the description is in conformity with Decision (EU) 2018/646 of the European Parliament and of the Council of 18 April 2018 on a common framework for the provision of better services for skills and qualifications (Europass) and repealing Decision No 2241/2004/EC.

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5. OFFICIAL BASIS OF THE CERTIFICATE

| | | | | | | | | | | | | | | | | |
|---|---|----------------|--|--|--|------|---|-------------------------|--|--|---|------|---|---|--|--------|
| Name and status of the authority issuing the certificate | Name and status of the national/regional authority providing accreditation/recognition of the certificate Ministry of Culture and Innovation | | | | | | | | | | | | | | | |
| Level of the certificate (national or international) NQF level: 4 EQF level: 4 Digital Competence Framework level: 5 | Grading scale / Pass requirements Five -grade: 5 excellent 4 good 3 satisfactory 2 pass 1 fail | | | | | | | | | | | | | | | |
| Certificate number: CXK A Serial number: 123456 Certificate issue date: 2024.09.23 | Designation of the theoretical and practical subjects of the vocational qualification examination and their grades according to a five-grade scale <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="3">written</td> </tr> <tr> <td style="width: 80%;">Telecommunications calculations, wired and wireless technologies</td> <td style="width: 10%; text-align: center;">100%</td> <td style="width: 10%; text-align: center;">5</td> </tr> <tr> <td colspan="3">project exercise</td> </tr> <tr> <td>Construction of a partly wired and partly wireless connection</td> <td style="text-align: center;">100%</td> <td style="text-align: center;">5</td> </tr> <tr> <td colspan="2">Result of the qualification examination</td> <td style="text-align: center;">100% 5</td> </tr> </table> | written | | | Telecommunications calculations, wired and wireless technologies | 100% | 5 | project exercise | | | Construction of a partly wired and partly wireless connection | 100% | 5 | Result of the qualification examination | | 100% 5 |
| written | | | | | | | | | | | | | | | | |
| Telecommunications calculations, wired and wireless technologies | 100% | 5 | | | | | | | | | | | | | | |
| project exercise | | | | | | | | | | | | | | | | |
| Construction of a partly wired and partly wireless connection | 100% | 5 | | | | | | | | | | | | | | |
| Result of the qualification examination | | 100% 5 | | | | | | | | | | | | | | |
| Access to next level of education/training | International agreements | | | | | | | | | | | | | | | |
| Other information concerning the vocational training process | | | | | | | | | | | | | | | | |
| Legal basis Government Decree 12/2020 (II. 7.) on the Implementation of the Vocational Education and Training Act, Government Decree 319/2020 (VII. 1.) on the amendment of Government Decree 12/2020 (II. 7.) on the Implementation of the Vocational Education and Training Act, Government Decree 11/2020 (II. 7.) on the Implementation of the Act on Adult Education, Section 13(1) of Act LXXX of 2019 on Vocational Education and Training. | | | | | | | | | | | | | | | | |

6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE

| Description of the sectoral basic training and the theoretical and practical vocational training | Distribution of programme elements in percentage |
|--|--|
| | |
| Total duration of the education/training | 800 hours |

Entry requirements:

- Educational prerequisite: secondary school-leaving certificate
- Health aptitude requirements must be met

Further information:

WRITTEN EXAMINATION EXERCISES

Completing a test task (single choice, multiple choice, matching answers). Topics: - Wired and wireless wave propagation. Frequency bands and conversions between them - Types of antennas most commonly used by wireless technologies - Equipment and operation of PtP and PtMP terrestrial and satellite (VSAT) microwave links - Equipment and operation of coaxial networks (KTV) - Equipment and operation of optical networks (xWDM) - Equipment and operation of IP and WiFi networks

PROJECT EXERCISES

The examinee shall build a partly wired and partly wireless network according to the following breakdown

Examination part A: - assembly (straight and cross) of twisted copper pair cables according to standard (568A, 568B), - optical fibre splicing, fibre welding, certification measurement of completed assemblies (insertion, line attenuation), - mechanical fibre splicing: typical values: 0,2 - 0,75 dB; - fusion fibre welding: typical values: 0,02 - 0,03 dB; -installation of active unit (router, switch, xWDM, GPON unit) with cable prepared by the tester, -installation/measurement report with indication of the devices/equipment used (list of active and passive devices used, production (P/N) and serial (S/N) numbers, documentation of quantities used).

Examination part B: - Installation of coaxial cables, certification measurement of completed installations (insertion, line attenuation), - Antenna installation (terrestrial microwave or satellite); quality of the link acceptable in the exam: BER (bit error rate), - programming of spectrum analyser, satellite finder and other instruments, measurements, - installation of active unit (router, switch, modem, STB) with antenna installed by the candidate, - preparation of installation/measurement report with the indication of the equipment/equipment used (list of active and passive equipment used, production (P/N) and serial (S/N) numbers, quantities used, with documentation of weather conditions).

You can find more information on the Programme and System Requirements in the following link: <https://ikk.hu>

This certificate supplement was elaborated in accordance with the programme requirements registered by the minister responsible for VET.

National Reference Point: National Office of Vocational Education and Training and Adult Learning: <https://nrk.nive.hu>

Head of Examination Organiser:

Issue date: 2024.09.23

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