

1. TITLE OF THE CERTIFICATE (DE) ⁽¹⁾
**Lehrabschlussprüfungszeugnis Mechatronik –
Hauptmodul Fertigungstechnik**
⁽¹⁾ in original language

2. TRANSLATED TITLE OF THE CERTIFICATE (EN) ⁽²⁾
**Certificate of Apprenticeship 'Mechatronics Specialising in
Manufacturing Engineering' (f/m)**
⁽²⁾ This translation has no legal status.

3. PROFILE OF SKILLS AND COMPETENCES
Specialist areas of competence:
Professional profile basic and main module manufacturing engineering:

1. Manufacture, installation, configuration, commissioning, testing and documentation of machines, devices, equipment and structures, also in conjunction with mechanical, pneumatic and hydraulic systems,
2. Systematic search, localisation and elimination of faults, defects and malfunctions on machines, devices, equipment and structures, also in conjunction with mechanical, pneumatic and hydraulic systems,
3. Maintenance and servicing of machines, devices, equipment and structures, also in conjunction with mechanical, pneumatic and hydraulic systems,
4. Optimisation as well as implementation of changes and adjustments to machines, devices, equipment and structures according to instructions and plans, also in conjunction with mechanical, pneumatic and hydraulic systems,
5. Implementation of changes and extensions to machines, devices, equipment and structures according to instructions and plans, also in conjunction with mechanical, pneumatic and hydraulic systems,
6. Collection and documentation of technical data on the workflow and work results/final products,
7. Performance of all tasks taking into consideration relevant quality, safety and environmental standards.

Professional profile special module robotics:

1. Programming of robots,
2. Installation, configuration, commissioning, testing and documentation of robots and mobile robotic systems and their peripheral facilities,
3. Systematic search, localisation and elimination of faults, defects and malfunctions on robots and mobile robotic systems and their peripheral facilities,
4. Maintenance and servicing of robots and mobile robotic systems and their peripheral facilities,
5. Optimisation as well as implementation of adjustments and changes to robots and mobile robotic systems and their peripheral facilities,
6. Provision of advisory services to customers on issues related to the use and operation of robots.

Professional profile special module SPS-technics:

1. Planning of the structured programming of programs for programmable logic controllers (PLCs) independent of the controller type,
2. Advanced programming according to IEC 61131-3 in all of the following programming languages: IL and ST as well as LD, FBD and SFC,
3. Systematic search, localisation and elimination of faults, defects and malfunctions of PLC programs,
4. Programming of alternative programming systems,
5. Optimisation as well as implementation of adjustments and changes to PLC programs based on the special requirements of their application,
6. Provision of advisory services to customers on issues related to PLC programming and optimisation.

Professional profile special module additive manufacturing (AM):

1. Creation and optimisation of support structures for components and production processes, also using company-specific software,
2. Preparation of the production processes and operation of company-specific machines and systems for additive production while observing the protective measures and safety rules,
3. Carrying out and monitoring the production process,
4. Reworking of additively produced components (e.g. removal of support structures, surface treatment, heat treatment, mechanical processing) as well as testing of the components.

Professional profile special module digital manufacturing engineering:

1. Selection and use of appropriate software or other digital applications from the software system landscape in the digital manufacturing environment,
2. Running machining simulations for the entire flow of a final program (e.g. using post-processor output),
3. Saving and loading programs to control robots or cobots and creating simple programs,
4. Performing simple positioning or gripping tasks with robots or cobots.

4. RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE CERTIFICATE ⁽³⁾**Range of occupations:**

Employment in design offices, workshops, production halls and on-site at customers' premises for the manufacture, assembly, commissioning and repair of mechatronic (mechanical, electrical and electronic) parts, components and systems including hardware and software components for production and manufacturing facilities for entire manufacturing processes.

⁽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)	Grading scale / Pass requirements
NQF/EQF 4 ISCED 35	Overall performance: Pass with Distinction Good Pass Pass Fail
Access to next level of education/training	International agreements
Access to the <i>Berufsreifeprüfung</i> (i.e. certificate providing university access for skilled workers) or a vocational college for people under employment. Access to relevant courses at a <i>Fachhochschule</i> (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.	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 mechatronics BGBl. II (Federal Law Gazette) No. 196/2019 as amended by BGBl. II No. 315/2022 (company-based training)
2. Curriculum framework (education at the vocational school for apprentices)
3. The present apprenticeship trade replaces the apprenticeship trade mechatronics (Training and Examination Regulation BGBl. II (Federal Law Gazette) No. 120/2015), which expired as of 2019, July 31.
4. The apprenticeship 'mechatronics – manufacturing engineering' has been set up as a modular apprenticeship. Following the basic and main module manufacturing engineering there is the option to provide training in one of the special modules (robotics, sps-technics, digital manufacturing engineering, additive manufacturing) or one further module. Information on the main module 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 mechatronics – manufacturing 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 and main module: 3,5 years; basic, main and special module/additional main module: 4 years.

Enterprise-based training: Enterprise-based training comprises $\frac{4}{5}$ 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. 169/2019 as amended by BGBl. II Nr. 315/2022, 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 $\frac{1}{5}$ 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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