



CERTIFICATE SUPPLEMENT



Title of the qualification (FI, SV)
<p><i>Kone- ja tuotantotekniikan perustutkinto</i> <i>Grundexamen i maskin- och produktionsteknik</i></p> <p><i>Qualification requirements entered into force on 01.08.2022 (OPH-4774-2021)</i></p>
Translated title of the qualification (EN)
<p><i>Vocational Qualification in Mechanical Engineering and Production Technology</i></p>
<p>This translation has no legal status.</p>

Profile of skills and competences

Composition of the qualification

The scope of a vocational qualification in mechanical engineering and production technology is 180 competence points. The qualification is composed of vocational units (145 competence points) and common units (35 competence points).

The scope of compulsory units in the qualification is 65 competence points (35 competence points from units that are compulsory for all competence areas and one compulsory qualification title - specific unit of 30 competence points), and 40-80 competence points are chosen from optional units specific to the qualification title (Optional units 1) and 0-40 competence points from units that are optional for all (Optional units 2).

The vocational qualification in mechanical engineering and production technology comprises two competence areas and five qualification titles:

- competence area in assembly and automation (Automation Assembler, Mechanical Fitter) and
- competence area in production technology (Machinist, Plater-welder, Maker of Plastic and Rubber Products).

Vocational skills and competences required for completion of the qualification

Competence area in Production Technology, Machinist

Machinists can make components of machines and other parts in accordance with working drawings by machining, utilising automatic machine tools. They can plan the order of the different work stages of the manufacturing process and use the materials, machines, equipment, and methods of the field appropriately and safely in their work. Machinists are also responsible for the quality of the products they have made and for the correct controls and operation of the machines they use. They are able to programme a CNC machine tool and use it in manufacturing.

Competence area in Assembly and Automation, Mechanical Fitter

Mechanical fitters can assemble and install mechanical machines and equipment. They are able to carry out machine installations in the correct order and using the correct methods with the help of work instructions and drawings. Mechanical fitters are able to inspect the parts and components that are to be installed, carry out the required checks and adjustments and do the required documentation. They are familiar with the structures and operation of machines and equipment, are able to use materials and different assembly methods appropriately and safely in their work. Mechanical fitters are able to apply mechanics, hydraulics, and pneumatics in their work. They are able to install machines and equipment, service them, and participate in the introduction and repairs of equipment.

Competence area in Assembly and Automation, Automation Assembler

Automation assemblers can assemble and install automation equipment and their components. They are familiar with the structures and operation of the components and equipment in machine automation and can use the materials and different installation methods safely and appropriately in their work. Automation assemblers are able to apply mechanics, hydraulics, pneumatics, and electrical engineering in electromechanical installations. They are able to carry out mechanical and electromechanical installations in the correct order and using the correct methods safely with the help of work instructions and drawings. Automation assemblers are able to check the parts and components to be installed and carry out the necessary adjustments, controls, and programming and do the related documentation. They participate in the introduction, services and repairs of equipment.

Competence area in Production Technology, Plater-welder

Plater-welders can plan and do plate work, welding, and work on metal structures according to drawings, using modern manufacturing methods. They can plan the order of the different work stages of the manufacturing process and use the materials, machines, equipment, and methods of the field appropriately and safely in their work. They have acquired the competences and passed the

tests required for their occupation. They are also responsible for the quality of the product they have manufactured and the correct controls and operation of the machines they use.

Competence area in Production Technology, Maker of Plastic and Rubber Products

Makers of plastic and rubber products know the production techniques and manufacturing methods of their field and are familiar with the used materials. Qualifications holders are able to work in tasks related to the manufacture, testing, and quality control of products, to servicing and maintenance of the machines they use and to warehousing activities. They are able to work economically and safely in production and in the work community and make sure their work is of good quality.

Range of occupations accessible to the holder of the certificate

Competence area in Production Technology, Machinist

Machinists work as part of production that manufactures different objects according to work drawings through chipping by programming and using automatic CNC machines. Manufacturing may be the manufacture of single objects or serial production. Machinists work in tasks involving machining parts of machines and measuring and quality control of manufactured products. Parts of different sizes and machined according to different accuracy requirements are used in all building of machines and equipment.

Competence area in Assembly and Automation, Mechanical Fitter

Mechanical fitters work in tasks involving installation and assembling of different mechanical equipment and machines in industry, repair shops or the customer's facilities. They work as part of production by carrying out assemblies, installing individual parts, or machine parts and by participating in servicing and maintenance tasks. Installation work may be serial work or include fault detection and changing even large components.

Competence area in Assembly and Automation, Automation Assembler

Automation assemblers are specialised in assembling tasks related to automation systems. They work in tasks related to installing, assembling and servicing machines and components related to different automation equipment. Their work environment may be in industry, in repair shops or in the customer's facilities. Electrotechnical skills and a command of safety in electrical work is required from automation assemblers. The automation systems governing production or a process may sometimes be very extensive and complex.

Competence area in Production Technology, Plater-welder

Plater-welders weld, shape and join plates. They work as part of production in which different objects are manufactured from steel according to work drawings and instructions. Their work tasks include work such as different kinds of welding tasks and cutting and bending plates. They are able to use modern CNC machines and equipment in their work. Plater-welders work in the metal industry in the manufacture of plate pieces and welded pieces, making different steel structures or their components. Diverse steel structures are used in different machines, buildings and vehicles.

Competence area in Production Technology, Maker of Plastic and Rubber Products

Professionals of the field of plastic and rubber products may work as part of production in which different products are manufactured ranging from simple disposable products to hugely expensive cutting-edge technical products. The work task may be, for example, use or monitoring of rotation automated extrusion, injection moulding, blow moulding, thermoforming or rotational forming processes in mass production. They may also work in manufacture dominated by manual work phases or use modern manufacturing techniques and robotics to make and finish products.

Official basis of the certificate

Name and status of the body awarding the certificate

An education provider with an authorisation to provide education and award qualifications granted by the Ministry of Education and Culture.

Name and status of the national/regional authority providing accreditation/recognition of the certificate

Ministry of Education and Culture

Finnish National Agency for Education, the national agency subordinate to the Ministry of Education and Culture

Level of the certificate (national or international)

National Qualifications Framework (nqf) 4
European Qualifications Framework (eqf) 4
ISCED 3

Grading scale/Pass requirements

Satisfactory 1 / Satisfactory 2 / Good 3 / Good 4 / Excellent 5

Access to the next level of education/training

International agreements

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The qualification confers eligibility for higher education studies.	
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Legal basis

Vocational Education and Training Act 531/2017 and the decrees that complement it.

Officially recognised ways of obtaining the certificate

The vocational skills required for completing the modules are demonstrated by performing practical tasks in authentic situations and work processes (demonstration of knowledge and skills). The student's knowledge and skills are assessed diversely by a teacher and a working life representative and compared to the competence defined in the qualification requirements. The education provider awards the student a qualification certificate once the qualification has been completed acceptably in accordance to the qualification requirements laid down by the Finnish National Agency for Education.

Entry requirements

No formal qualifications are required to take the competence test.

Additional information

Finnish National Agency for Education

P.O. Box 380, FI-00531 Helsinki, Finland

www.oph.fi

Explanatory note

This document is designed to provide additional information about the specified certificate and does not have any legal status in itself. The format of the description is based on the following texts: Council Resolution 93/C 49/01 of 3 December 1992 on the transparency of qualifications, Council Resolution 96/C 224/04 of 15 July 1996 on the transparency of vocational training certificates, and Recommendation 2001/613/EC of the European Parliament and of the Council of 10 July 2001 on mobility within the Community for students, persons undergoing training, volunteers, teachers and trainers.

For more information on transparency, visit <http://www.cedefop.europa.eu/en/themes/understanding-qualifications>

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