

1. Title of the certificate (HR) and programme number <sup>(1)</sup>**Tehničar za mehatroniku**

(041504)

<sup>(1)</sup> In the original language2. Translated title of the certificate (EN) <sup>(1)</sup>**Mechatronics Technician**<sup>(1)</sup> If applicable. This translation has no legal status.

## 3. Profile of skills and competences

## A) GENERAL EDUCATION COMPETENCES

- Use basic communication knowledge and skills through active use of mother tongue and foreign languages with the use of professional terminology
- Solve complex mathematical problems
- Understand and apply physical principles and natural world principles, apply chemical and biological knowledge within the framework of sustainable community development
- Use modern information and communication technology safely and critically
- Continuously acquire knowledge and skills in line with technological changes
- Understand basic economic terms and functioning of the economic system as a whole, acquire and apply entrepreneurial competences
- Apply consistently professional ethics and civic education principles
- Regular physical exercise and continuous use of work safety procedures

## B) VOCATIONAL COMPETENCES

- Identify and address problems in the manufacturing process associated with mechatronic elements, circuits or devices
- Design electrical assemblies and installations and assemble components and/or devices according to the connection diagrams
- Manage the operation of electric drives
- Connect and design simple hydraulic and pneumatic systems and apply such systems in automation systems
- Program and maintain the numerically controlled machines by means of the computer graphics programs (CAD/CAM) using the selected programming language or tool, program the machinery in ISO (G) code
- Program programmable logic controllers and microcontrollers
- Maintain and service pneumatic, hydraulic, electrical and electronic system elements according to the manufacturer's technical documentation
- Solve simple tasks of automatic supervision and control (control and regulation) of the process using a programmable logic controller (PLC), a microcontroller or an industrial computer
- Control the industrial and/or mobile robot
- Plan, monitor and control the production of elements of mechatronic systems
- Manufacture and update technical and technological documentation

## 4. Range of occupations accessible to the holder of the certificate

The qualification enables work on assembling, installing, maintaining and upgrading of machines, tools, devices, robots, manufacturing and assembly lines and working on ships. He/ she can be employed at the following positions: lift and elevator repairman, hydraulic systems repairman, heating and photovoltaic systems installer, robot programmer. Self-employment is possible by setting up a trade.

## 5. Official basis of the certificate

<p><b>Name and status of the body awarding the certificate</b></p> <p>The certificate is issued by the secondary education institution (vocational education and training school).</p>	<p><b>Name and status of the national authority providing accreditation/recognition of the certificate</b></p> <p>Ministry of Science and Education Donje Svetice 38 10 000 Zagreb <a href="http://www.mzo.hr">www.mzo.hr</a></p>
<p><b>Legal basis</b></p> <p>Primary and Secondary School Education Act (Official Gazette No. 87/2008, 86/2009, 92/2010, 105/2010-corr., 90/2011, 16/2012, 86/2012, 94/2013, 152/2014, 7/2017, 68/2018, 98/2019 and 64/2020) Vocational Education Act (Official Gazette No. 30/2009, 24/2010, 22/2013 and 25/2018) Croatian Qualifications Framework Act (Official Gazette No. 22/2013, 41/2016, 64/2018, 47/2020 and 20/2021)</p>	<p><b>National grading system / Pass requirements</b></p> <p>Excellent 5 (10) A Very good 4 (9) B Good 3 (8) B Sufficient 2 (6-7) C Insufficient 1 (0-5) F</p> <p>In order to pass the exam, it is necessary to get the grade 2 (6-7), i.e. C (sufficient).</p>
<p><b>Level of qualifications</b></p> <p>Level 4.2. in the Croatian Qualifications Framework</p>	<p><b>Access to next level of education/training</b></p> <p>Access to higher level of qualification in accordance with the Croatian Qualifications Framework.</p>

## 6. General data of acquiring the certificate

Description of vocational education and training received	Percentage of total programme (%)	Total number of hours
General education part	49,8 %	2166
Vocational part – theoretical	20,4%	889
Vocational part – practice/exercises	29,8%	1294
<b>Duration of education</b>		4 years

**Entry requirements:** The completion of primary education.

**More information available at:**

Ministry of Science and Education ([www.mzos.hr](http://www.mzos.hr))  
Education and Teacher Training Agency ([www.azoo.hr](http://www.azoo.hr))  
Agency for Vocational Education and Adult Education ([www.asoo.hr](http://www.asoo.hr))

**National reference point:**

National Europass Centre ([www.europass.hr](http://www.europass.hr))  
at the Agency for Mobility and EU Programmes ([www.mobilnost.hr](http://www.mobilnost.hr)).

**(\*) Explanatory note**

The Certificate supplement provides additional information about the certificate and does not have any legal status in itself. Its format is based on the 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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