TRAINING PROGRAMM WITHIN THE FRAMEWORK OF ERASMUS +

For Electronics mechanic, meachatronics technician

Title: **Skills in Practical Interdisciplinary Environment** (acronym: SPIDER) Erasmus+ KA102
Period of the framework: 06.02.2021 – 27.02.2021 r.
Place of framework: Wrocław, Poland
Sending organization: Strukovna škola Đurđevac, 48350 Đurđevac, Croatia
Host organization: Aviva Poland.

DATE	MAIN ACTIVITIES	SKILLS/COMPETENCES	HOURS
07.02.2021r. 07:00 – 12:00 14:00 – 17:00	**Travel day:** • Arrival of project participants together with the group's guardian to Wrocław. • Pick up from the coach station by a representative of an intermediary organization. •Transfer and accommodation. **Introductory meeting -intermediary evaluation in Aviva office** : • The student becomes acquainted with the exchange partner. • Presentation of the Croatian group, familiarization with peer mentor, who will conduct an introductory lecture on Polish culture (multimedia presentation). •Familiarizing with elementary facts about Wrocław (location, short history of the city). • Discussing a pre-determined residence program. **Orientation tour** conducted by a peer mentor - familiarization with the topography of the city, the most important points around the place of residence (currency exchange, getting acquainted with timetables and rules of moving by public transport, etc.)	Students develop personal and social competences: in a foreign language they introduce themselves and talk about their interest in the profession, competences acquired at school and experience gained so far. They can determine their skills and things they would like to improve in their profession.	
08.02.2021r. 07:00 – 11:00	**INTRODUCTION DAY:** • Pupils under the supervision of a peer mentor are taken to a medical clinic for the purpose of performing occupational medicine examinations • The student takes general health and safety training (occupational health and safety, labor law, fire protection, GDP) organized in the office of an intermediary organization	The student distinguishes between concepts related to occupational health and safety, as well as fire protection, environmental protection and ergonomics. Is aware of the rights and obligations of the employee and employer in the field of occupational health and safety. Able to organize a workplace in accordance with the applicable requirements of ergonomics, health and safety regulations.	8

12:00 – 16:00	• Each trainee is guided by the mentor of the intermediary organization to the company in which he will take his three-week professional practice • The apprentice is acquainted with the supervisor and the rest of the employees as well as with the organization of the workplace. (The student learns the organizational structure of the workplace and the scope of employees' duties). • The student is trained in general and workplace health and safety. (Job training in the field of occupational health and safety, labor law, fire protection, environmental protection and segregation.)		
09.02.2021r. 08:00 – 16:00	**Taking a worksite** • The student occupies a worksite under the care of a tutor - the student helps in the preparation of the worksite, learns the sphere of duties at a given position, reads the instruction manual of the machines on which he will work or assisted during the professional practice. The student learns the structure and policy of the company. The student gets acquainted with the plan of his three-week internship. The student asks questions.	The student becomes acquainted with the various tools used in the work of the mechatronics technician and the electronics mechanic. He is able to use them in accordance with the instruction manual.	8
10.02.2021r. 08:00 – 16:00	*The student gets acquainted with the English terminology in the field of performing mechatronic technician and electronic mechanic tasks, especially those related to the organization of work. Communicating in the work environment, understanding commands, creating notes. *The student gets acquainted with examples of solutions showing the integration of various areas of knowledge in mechatronic and electrical systems. The student becomes acquainted with the construction and operation of relays, contactors, transformers, electric control systems and protections of electrical systems located on the employing establishment.	The student can use English terminology related to the mechatronic and electronic industry. Use a foreign language to support the performance of professional tasks; communicate with a colleague in a foreign language in the scope of realization work in the profession. The student can use the concepts of electronics, mechatronics and electrical engineering. The student is able to discuss materials used in electrical engineering; discuss materials used in electronics; discuss materials used in mechatronics.	8
11.02.2021r. 08:00 – 16:00	*The student prepares the workplace. The student carries out the assigned work under the watchful eye of the guardian. He learns and asks questions. *The student becomes acquainted with integrated circuits and rectifier system. Electronic amplifiers are also presented to him: voltage, current, power and their division due to the class, design of the system and the type of amplified signal. The student is familiarized with the technical documentation of the devices located on the employing establishment.	The student acquires knowledge related to the performance of the designated work with professional electromechanical devices. The student can identify graphical symbols of electronic circuits; identify electronic components and circuits based on the appearance and markings. The student is able to analyze the technical documentation in terms of the function of electronic components and systems.	8
12.02.2021r. 08:00 – 16:00	*The student prepares the workplace. A tutor helps an apprentice to solve problems that may arise during work related to a machine malfunction, sudden lack of power, error during work. *The student becomes familiar with the work of simple pneumatic and electropneumatic control systems. The electrical control part of the electropneumatic systems is presented to him closer. *The students are briefly presented the principles of drawing schemes of pneumatic control systems and their analysis and reading.	The student can solve the problem when the machine or device he uses fails. Acquires the ability to act under stress and under pressure. The student can explain the operation of pneumatic drives; explain the operation of pneumatic and electropneumatic valves; identify pneumatic and electropneumatic components in the diagrams; identify pneumatic and electropneumatic components and assemblies in the diagrams.	8
13.02.2021r.	**Getting to know Wroclaw's tourist attractions:** Visiting: Botanical Garden of the University of Wroclaw, Centennial Hall, Hydropolis		

14.02.2021r.	**Getting to know Wroclaw's tourist attractions:** Sightseeing: Polinka, National Museum, Sky Tower		
15.02.2021r. 08:00 – 16:00	*The student prepares the workplace. Thanks to the knowledge acquired over the last week, the student is able to use machines and tools at his workplace without much problem. He skillfully uses his knowledge in the tasks assigned to him. *The student participates in the foreign customer service. He carefully observes what is important when working with the client, what information should be provided. *The student is familiar with the areas of application of the hydraulics and the hydraulic drives and valves that the employing establishment deals with. The student is to analyze the work of electrohydraulic control systems and analyze whether everything works properly.	The student can explain the construction of hydraulic and electrohydraulic valves; define the application areas of hydraulic control systems. Explain the operation of hydraulic drives; explain the operation of electrohydraulic hydraulic valves; identify hydraulic and electrohydraulic elements in the diagrams.	8
16.02.2021r. 08:00 – 16:00	*The student selects machine parts for the operational requirements of the equipment and control and measuring instruments. *The student is acquainted and participates in the appropriate selection of tools for assembly and disassembly operations. Methods of measuring geometrical quantities of machine elements are presented to the student.	The student can distinguish between measuring and control instruments used in machine construction; discuss the use of control and measuring instruments; discuss the method of measurement by control and measuring instruments; distinguish between control and measuring instruments; select control and measuring instruments in accordance with the quality requirements of the products and specific measurement conditions.	8
17.02.2021r. 08:00 – 16:00	The student is acquainted with means of internal transport in warehouses. It presents the functions and tasks of warehouses, storage infrastructure, warehouse operations, storage rules and storage rules.	The student can recognize the means of internal transport; characterize the means of internal transport used in industrial plants to discuss the rules for the selection of internal means of transport; choose the means of transport for specific conditions of technological and assembly lines;	
18.02.2021r. 08:00 – 16:00	The student under the supervision of the tutor deals with the selection of parts of machines and measuring instruments. Uses the tools of assembly and disassembly of machine parts. Selects tools for assembly and disassembly operations. He deals in the assembly and disassembly of machine parts.	The student can characterize the types, discuss the construction and use of machine parts and devices; indicate the use of machine parts and devices in the construction of mechatronic devices and systems; distinguish between parts of machines and devices in the construction of mechatronic devices and systems; distinguish tools and instruments for assembly and disassembly of machine parts and devices; characterize the control-measuring instruments to assess assembly quality; discuss the types of machine parts and devices; discuss the construction and use of components, subassemblies and mechanical assemblies; distinguish between elements, subassemblies and mechanical assemblies;	8
19.02.2021r. 08:00 – 16:00	The student prepares the workplace. Diagnoses pneumatic and electropneumatic devices and systems; Analyzes schemes of pneumatic and electropneumatic devices and systems; He maintains pneumatic and electropneumatic systems.	The student can determine the ways of locating common faults (eg lack of supporting switching) in pneumatic and electro-pneumatic devices and systems; explain possible ways of removing localized faults in pneumatic and electro-pneumatic devices and systems; specify the method of assembly of pneumatic and electro-pneumatic elements, subassemblies and assemblies;	8

20.02.2021r.	**Getting to know Wroclaw's tourist attractions:** Sightseeing: Ostrów Tumski, Panorama Racławicka, Rynek, Ratusz, Tołpa Park		
21.02.2021r.	**Getting to know Wroclaw's tourist attractions:** Sightseeing: Zoo, Quarter of Confessions		
22.02.2021r. 08:00 – 16:00	The student gets acquainted with the PCB design programs: Altium Desinger DXP, Protel99SE, Altinum The student is implemented in currently projects at the workplace.	The student can handle programs for PCB design. The student can design a PCB according to the wiring diagrams.	8
23.02.2021r. 08:00 – 16:00	The student thanks to the previously acquired knowledge, develops a multi-layered PCB. The student performs projects in the then-familiar computer programs. The student gets acquainted with SMD elements adapted to the assembly technology of SMT	The student can independently make post and advanced PCB designs in appropriately designed computer programs.	8
24.02.2021r. 08:00 – 16:00	The student uses assembly technology of SMT (surface assembly). The student deals with manual assembly (SMT) on pre-designed PCBs. The student is acquainted with automatic devices for surface assembly SMT.	The student implements the assembly technology of SMT The student can independently create a PCB and mount appropriate elements on it.	8
25.02.2021r. 08:00 – 16:00	The student appropriately programs automatic devices for surface mount of SMT. The student controls the automatic assembly of SMT. The student is acquainted with the technologies of PCB manufacturing in the work establishment.	The student can handle and control the work of automatic machines for assembly of SMT. The student can program machines for automatic assembly od SMT.	8
26.02.2021r. 08:00 – 15:00 16:00 – 18:00	 The student takes part in everyday tasks and at the end of work briefly tells and shows what he learned during the internship. Signing all documents. Farewell in the workplace. Final evaluation in Aviva office.		9
27.02.2021r.	**Departure day** Students with their guardians are checked out from the accommodation. Transport to the coach station with an intermediary's guardian.		

Kopsteyn Szymon

WROCŁAW, PL
29.01.2020

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