



Institution:	IEK DELTA
Programme/Training Title:	Mechatronics Technician
Unit Title:	Organization, Operation and Workshop Safety - Environment
Unit Type (e.g. major, minor, elective):	Basic Training
Unit Level:	EQF Level 5
Duration:	30 guided hrs
Pre-requisites:	EQF Level 4
Instructor:	Dr. Konstantinos Kiousis
Number of ECVET credits:	3

### **Learning Outcomes**

**By completion of this unit the learner should be able to**

1. Implement the rules referred to a healthy and safe practice of his duties
2. Apply within the legislative framework referred to the environmental protection from his practice
3. Perform the first aid in case of an accident
4. Apply the basic principles of the organization and arrangement of a garage

<b>Mechatronics Technician</b> <b>Organization, Operation and Workshop Safety - Environment</b>			
<b>Learning outcomes</b> <b>By the end of this course a learner is expected to:</b>	<b>Method of Assessment</b>	<b>ECVET System</b>	<b>Training duration in hours</b>
1. Implement the rules referred to a healthy and safe practice of his duties	<ul style="list-style-type: none"> <li>• Multiple choice test</li> <li>• Final exam</li> <li>• Class discussion</li> <li>• Class participation</li> </ul>	<b>K</b>	<ul style="list-style-type: none"> <li>• Identifies the causes of accidents and in particular the risks to the garages</li> <li>• Knows the risks of:               <ul style="list-style-type: none"> <li>- Electricity – rain</li> <li>- Raising loads</li> <li>- Welding – Metal cutting</li> </ul> </li> </ul>
		<b>S</b>	<ul style="list-style-type: none"> <li>• Explains the accidents prevention</li> <li>• He is able to implement the fire protection measures and to properly use powder fire extinguishers</li> <li>• Corresponds appropriate protection measures with work</li> <li>• Selects appropriate precautionary ways depending on the risk</li> </ul>
		<b>C</b>	<ul style="list-style-type: none"> <li>• Receives accidents prevention measures</li> <li>• Uses correct personal protective equipment</li> <li>• Uses correct portable hand tools and fixed gear</li> </ul>
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<p>2. Apply the legislative framework referred to the environmental protection from his practice</p>	<ul style="list-style-type: none"> <li>• Multiple choice test</li> <li>• Final exam</li> <li>• Class discussion</li> <li>• Class participation</li> </ul>	K	<ul style="list-style-type: none"> <li>• Apply the rules relating to the protection of customers ‘assets and the business</li> <li>• Recognizes materials that must be kept for recycling</li> <li>• Identifies the main pollutants</li> <li>• Knows the engine – accessories chemical cleaning agents</li> <li>• Knows about the air and water pollution, which are the pollutants as well as pollution control methods</li> </ul>	8
		S	<ul style="list-style-type: none"> <li>• Implements and complies with the intended recycling process</li> <li>• Identifies the consequences of chemicals on human and the environment</li> </ul>	
		C	<ul style="list-style-type: none"> <li>• Follows the appropriate measures to reduce pollution</li> <li>• Protects the environment from his activities and complies with environmental rules</li> <li>• Applies conservation and protection measures and gas use</li> </ul>	
<p>3. Perform the first aid in case of an accident</p>	<ul style="list-style-type: none"> <li>• Multiple choice test</li> <li>• Class discussion</li> <li>• Class participation</li> </ul>	K	<ul style="list-style-type: none"> <li>• Knows about the occupational diseases</li> <li>• Identifies ways of preventing any occupational disease</li> </ul>	6
		S	<ul style="list-style-type: none"> <li>• Identifies ways of preventing any occupational disease</li> </ul>	
		C	<ul style="list-style-type: none"> <li>• Implements the first aid provision</li> </ul>	

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4. Apply the basic principles of the organization and arrangement of a garage	<ul style="list-style-type: none"> <li>• Multiple choice test</li> <li>• Final exam</li> <li>• Class discussion</li> <li>• Class participation</li> </ul>	K	<ul style="list-style-type: none"> <li>• Perform all the required in – house documents for his duties</li> <li>• Knows the current educational and informational sources on issues of his specialty</li> <li>• Use communication techniques with his customers and his colleagues</li> <li>• Apply quality standards of his work</li> </ul>	8
		S	<ul style="list-style-type: none"> <li>• Identifies on every progress in his specialty and is trained during his professional career (in-house or non-seminars, general or sectoral reports, technical publications and brochures, magazines, online information)</li> </ul>	
		C	<ul style="list-style-type: none"> <li>• Organizes his job</li> <li>• Organizes the function of various parts of the garage</li> <li>• Communicates with the client (informs, advises, reports, incites, elicits)</li> <li>• Knows how to deal with an unsatisfied customer</li> <li>• Supports the customer after the service</li> <li>• Implements the quality standards of his work</li> </ul>	
<b>TOTAL</b>				<b>30</b>

**Unit Contents**

A Semester

- Workshop safety

- Accident at work
- Causes of accidents
- Prevention of accidents
- Working sanitary conditions, order and cleanliness, ventilation
- Individual protection, Correct use
- Proper use of portable hand tools and fixed gear
- Danger of electricity – fire from any cause
- Chemical engine – components cleaning agents
- Effects on human and the environment precaution
- Risk of lifting loads (cranes, jacks, etc)
- Risk of welding – metal cutting. Precautionary methods.
- Occupational diseases. Prevention
- Concept of the environment
- Oxygen cycle – Water cycle – Carbon cycle
- Pollution – pollutants
- Air pollution
- Water pollution
- Pollution from combustion – gases
- Noise pollution
- Emission control methods
- Air pollution from pollutants and impact on humans and the environment
- Recycling of solid and liquid waste
- Solid waste, metals, plastics, rubbers, glass, batteries, etc.
- Liquid waste, fuels, lubricants, chemical cleaning, brake fluid, batteries and air condition

- Preventive health care – first aid

**Teaching / Facilitating methods**

A SEMESTER: TEACHING HOURS 30 (2 THEORY/ week)

During theory, teaching and lectures are enriched with:

- Demonstration of parts and posters
- Slideshow and videos
- Use of computer along with the appropriate software and internet use.

Trainer chooses each time the most appropriate mean in order to meet course's needs and to fulfill its objectives. For the purpose of the course in the classroom and in the laboratory, it is also proposed to use:

- Projector
- Slideshow display
- Chart
- Computer with printer and internet connection

Trainees, apart from the Dynamic Technical Manual, can also use the library of the VET institution. For more specialized subjects, trainers can recommend acknowledged Greek and international literature, which is not available at the library. They, also, inform trainees on:

Sectoral reports held in Greece, which can be integrated into the educational process

Special documents, such as Greek and international technical magazines and brochures from organizations and trade unions

Seminars related with the specialization of Mechatronics Technician

Email addresses, which are reliable source of information

Supportive software during training.

Trainers can hand out additional notes on specific or general aspects of the course they teach. The reproduction of this material is under the responsibility of the institution and with their expenses.

Trainers qualifications:  
Diploma or Certified Engineer of High Institution with relevant education and at least a 3 – year professional experience relevant to the subject

**Assessment methods**

Assessment method	Description	Assessment criteria	Share to final grade
Final written exam	In the theoretical part, students will take written assessment tests. The duration of the theoretical part exam is 3 hours		
Formative assessment	Each trainer can give students short tests (true/false, multiple choice, matching). The grades of the tests count, if they are registered in IEK secretariat		It is defined by the trainer and announced to students.
Assignments	Each trainer can give assignments in the taught subjects.		It is defined by the trainer and announced to students.

**Required books:**

Authors	Title	Editor	Year	ISBN

**Suggested books:**

Authors	Title	Editor	Year	ISBN



## ECVET – Curriculum

### UNIT TEMPLATE



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