

## Vitalis – host organisation for Erasmus KA1 projects

VITALIS, as host organisation, receives participants from all European countries. Over the last 25 years we gained experiences from more than 1000 projects we realised in different fields of profession.

We develop model projects in the framework of Erasmus and ESF, also in cooperation with small and medium-sized enterprises in the region Leipzig and Halle.

We support the mobility of the participants in the European Community and the communication between people from all over Europe.

### Our project proposal for your stay in Germany:

**Title:** Car mechanics

**Duration:** 2 weeks

#### Learning outcomes common to all professions:

- Health and safety at work - observes health and safety rules and SOPs
- Professionally oriented foreign language - improved ability to use a foreign language (English/German) in the execution of tasks and the ability to formulate short and comprehensible statements to communicate in the workplace
- Personal and social competences - develops a culturally and ethically sound approach to working with others in a company, increased creativity and consistency in their actions, copes with stress, responsibility and assigned tasks
- Organisation of work in small teams - increased ability to communicate and work collaboratively with colleagues, organise work in a team

#### Learning outcomes in the field of Car mechanics:

The student learns/knows:

- How electrical and electronically measured values, such as pressures, temperatures and lengths, are recorded and compared with target data
- How to carry out maintenance work according to specifications, using circuit and function diagrams, reading out error memories and documenting the work steps
- How to trace customer complaints, establish diagnostic routes and detect damage or malfunctions in vehicle systems
- How components, subassemblies and systems are put into or taken out of operation, assembled, disassembled and joined (mainly by means of screw connections)
- How to prepare motor vehicles for legally required tests, check their roadworthiness and operational safety, document defects and initiate measures to eliminate them
- How to detect and evaluate data communication between control units and locate faults in wireless signal transmission systems
- How to repair electrical and optoelectronic data communication lines and replace high-voltage components
- How to testing, assess and repair power units, including engine management systems, exhaust systems, auxiliary units, power transmission and body systems
- How to retrofit systems, components and circuits for signal processing for optical transmission systems and motor vehicles with wireless signal transmission systems

## **General tasks**

The student develops their understanding of:

- The operation of vehicles and systems
- Decommissioning and commissioning of vehicle technology systems
- Maintenance and inspection of vehicles and systems according to specifications
- Identifying and eliminating malfunctions
- Testing, dismantling, replacing and assembling simple assemblies and systems
- Repairing assemblies and systems subject to wear and tear
- Measuring and testing systems
- Performing service and maintenance work
- Diagnosing faults and malfunctions in vehicles and systems
- Disassembling, repairing and assembling components, assemblies and systems
- Preparing vehicles for safety checks and acceptance tests
- Carrying out tests on vehicles in accordance with legal requirements
- Carrying out inspections and additional work
- Upgrading, conversion and retrofitting of vehicles
- Carrying out conversion work according to customer requirements
- Diagnosing and rectifying malfunctions in on-board power supply, charging current and starting systems
- Diagnosing mechatronic systems of drive management
- Performing service tasks on comfort and safety systems
- Repairing damage to running gear and brake systems
- Diagnosing and repairing networked drive, comfort and safety systems
- Repairing drive components

## **Examples of possible placements:**

- Car workshop at Gut Wehlitz
- Car workshops in Leipzig and the region

**All the above and below mentioned modules can be seen as examples. It's possible that we have to modify or adapt them due to the abilities of the participants or the capacities of the host company. The tasks and the activities vary and depend on the practical and the linguistic skills of the beneficiaries and on the needs and business volume of the companies.**

## ***Detailed training program - Car mechanics***

1 <sup>st</sup> week Monday - Friday	<p><b>Practical experience in the company</b></p> <ul style="list-style-type: none"><li>- Introduction to the placement company and the daily working time</li><li>- Information about the structure of the company</li><li>- Getting to know the fields of working</li><li>- Introduction to occupational health and safety</li><li>- Introduction to the daily work activities, needed materials and tools</li></ul> <p><b>Program for Monday:</b></p> <ul style="list-style-type: none"><li>- Introduction to the workshop and the workplaces</li><li>- Introduction to the health and safety regulations at work</li><li>- Handing out the tools, materials and the safety equipment</li><li>- Getting to know the tools to be used</li><li>- Self-study of the given documents with the tasks of the project</li></ul> <p><b>Program for Tuesday:</b></p> <ul style="list-style-type: none"><li>- Learn and apply occupational health and safety measures</li><li>- Active contribution to environment protection at the work place</li><li>- Pay attention and regard to safety information of the producer</li></ul>
---	---

<p>1<sup>st</sup> week Monday - Friday</p>	<p><b>Program for Wednesday:</b></p> <ul style="list-style-type: none"> <li>- Disassembly and assembly of various contents</li> <li>- Elaborate the characteristics of the contents according to the car model</li> </ul> <p><b>Program for Thursday:</b></p> <ul style="list-style-type: none"> <li>- Preparation of an engine as a functional model</li> <li>- Creation of a cutaway model of an engine, a gear unit and the corresponding elements</li> </ul> <p><b>Program for Friday:</b></p> <ul style="list-style-type: none"> <li>- Creation of a cutaway model of an engine, a gear unit and the corresponding elements</li> <li>- Disassembly and assembly of a shock absorber</li> </ul>
<p>2<sup>nd</sup> week Monday - Friday</p>	<p><b>Practical experience - installation works and tires</b></p> <p><b>Monday</b></p> <ul style="list-style-type: none"> <li>- Disassembly and assembly of an engine</li> </ul> <p><b>Tuesday</b></p> <ul style="list-style-type: none"> <li>- Disassembly and assembly of a gear unit</li> <li>- Manual gear box</li> <li>- Automatic gear box</li> </ul> <p><b>Wednesday</b></p> <ul style="list-style-type: none"> <li>- Preparation of car components for the assembly</li> <li>- Maintenance of mechanic components</li> <li>- Repair of a brake system</li> </ul> <p><b>Thursday</b></p> <ul style="list-style-type: none"> <li>- Changing tires</li> <li>- Disassembly and assembly of tires on steel or aluminium wheels</li> <li>- Getting to know the balancing machine</li> </ul> <p><b>Friday</b></p> <ul style="list-style-type: none"> <li>- Introduction to the car electrics and electronics</li> <li>- Getting to know the cabling of the vehicle with the help of a switch board</li> </ul>