T-shore Education

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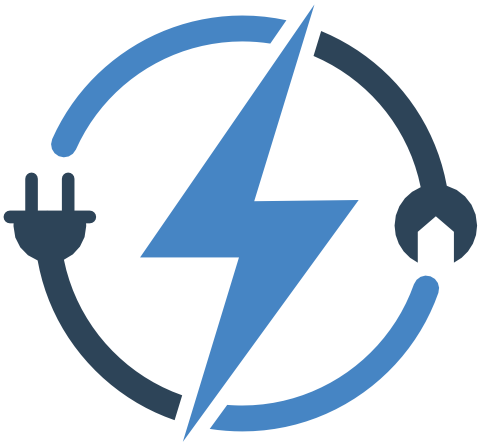
Module and Scenario Overview

Module:
Basic Electrical Skills
Learning scenario:
Electrical Introduction for Operators



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Note This is a fictive generic equipment checklist intended for training purposes and therefore may vary from the equipment checklist provided by a company. It is important that a technician always read and fill checklist carefully prior to any task.

Table of Contents

1 Description of the module

“Electrically Skilled Person" is a 12-week course offered at Skive College with a focus on providing participants with the necessary theoretical and practical skills to work safely with electrical installations and systems in accordance with applicable standards and legislation. The programme is primarily aimed at people who work in industry, including in the wind, energy and utility sectors, and who need to be able to handle electrical equipment without being fully trained electricians. The course typically covers areas such as:

- Basic electrical theory and safety
- Work according to EN 50110-1 (safety in electrical installations)
- Use of personal protective equipment (PPE)
- Risk analysis and preparation of work procedures
- Practical training in safe work situations

The module often concludes with a practical and theoretical evaluation documenting the participants' skills and qualifications as an *"electrical qualified person".*

1.1 Why is the module important?

This module is essential in a time where both green transition and electrification create an increased need for qualified labour who can work safely with electrical installations. In many companies, especially in the energy and utility sectors, there is a need for employees who, without being authorised electrical installers, can handle tasks on and around electrical systems in a safe and controlled manner.

The module not only strengthens the individual's professional profile but also contributes to the company's overall safety culture and compliance with legislation and standards. In addition, it allows companies to lift employees internally, which is crucial in a time of shortage of skilled technicians.

1.2 Theory

The module consists of a theoretical part where the participant learns about:

- Basic electrical theory, including voltage, current, resistance, and power
- Hazards when working with electricity
- Laws, executive orders and standards – especially EN 50110-1
- Classification of electrical tasks (e.g. de-energised work, live work, near-near work)
- Risk analysis and safety management

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- Personal protective equipment and proper handling of power tools
- Work procedures, instruction and responsibilities

1.3 Practical

In the practical part, the participant must, according to the instructor's guidance and documentation:

- Exercises in measurement, voltage testing and troubleshooting
- Disconnection and securing electrical circuits
- Simulation of emergencies and correct behaviour
- Developing and implementing safe working procedures

1.4 Evaluation

Throughout the module, the participant is evaluated by the instructor. The final evaluation is based on a report review and discussion with conclusions.

The course ends with a test and an assessment of both theoretical and practical skills.

2 Instructor pre-qualification

To complete the learning module's theory and practical training at a high professional and safety level, instructors must meet the following minimum requirements:

2.1 Knowledge:

- A **specialised electrical technical education** such as electrician, installer, marine engineer or engineer specializing in electrical engineering.
- **Advanced knowledge of electrical safety**, including a deep understanding of **EN 50110-1**, **the Executive Order on Strong Currents**, and applicable working environment regulations in relation to electrical work.
- In-depth knowledge of **low and high voltage work situations**, risk zones and requirements for safety measures.

2.2 Skills

- **Manual skills and practical experience** that make it possible to demonstrate and instruct in the correct and safe handling of electrical installations and components – e.g. proper voltage testing, disconnection and fuse.
- **Experience in the preparation and implementation of risk assessments**, work instructions and safety procedures in the field.
- **Experience in the use of personal protective equipment (PPE)** and the ability to assess their correct use in practice.

2.3 Ability

- **Pedagogical** competences, documented through, for example, a vocational pedagogical diploma or equivalent teaching experience.
- A **reflective approach to teaching**, including the ability to adapt communication to the participants' prerequisites and practice background.
- A **strong safety professional instinct** and ability to promote a safety culture through situation-based teaching and the inclusion of realistic scenarios and practice examples.

3 Participant Pre-qualification

To participate in the module and be able to complete both the theoretical teaching and the practical training parts, participants must meet the following minimum requirements:

3.1 Knowledge

- Basic knowledge of electricity, including concepts such as voltage, current, resistance, and power.
- Understanding of the danger of electric current, and the basic principles of safety in electrical environments.
- Knowledge of industrial working environments and technical equipment, e.g. switchgear systems, motors, controls or the like.

Examples of relevant backgrounds: industrial operator, blacksmith, mechanic, automation technician, process operator, technical service employee.

3.2 Skills

- Use **hand tools and measuring instruments** (e.g. multimeter, voltage tester) safely and correctly.
- Read and understand **work instructions, diagrams, and safety procedures**.
- Use **personal protective equipment (PPE)** correctly and understand the significance of their use.

3.3 Ability

- **To assess an electrical work situation with a focus on safety**, including identifying risks and taking appropriate precautions.
- **To follow instructions and procedures exactly**, even under pressure or in complex work situations.
- To work **independently and responsibly**, but at the same time know when to call a licensed electrician or a superior.

4 Overview of theoretical content, scenario documents, training equipment and infrastructure

Name	Questions / Answers	Kind	Category	Where to use
PC with projector screen	1	Real-life equipment	Theoretical workpiece equipment	Theoretical part
EN 50110-1 (Safety when working on electrical installations)	12	Digital material	Theoretical sub-material	Theoretical part
The Executive Order on Strong Currents and the Working Environment Act	12	Digital material	Theoretical sub-material	Theoretical part
Responsibilities, roles and authorisations	12	Digital material	Theoretical sub-material	Theoretical part
Security understanding. Electrical risks: electric shock, electric arcs, burns. Barriers, warning signs and barriers	12	Digital material	Theoretical sub-material	Practical part

Work categories and forms of work. Voltage-free work, working under voltage and working near voltage	12	Digital material	Theoretical sub-material	
Risk assessment **and safe working practices.** Work instruction, permits, procedures and controls	12	Digital material	Theoretical sub-material	Practical part
Use of PPE and measuring equipment. Gloves, helmets, visors,	12	Personal Protective Equipment	Practical Part Material	Practical part
Voltage Testers, multimeters.	12	Real-life equipment	Practical Part Material	Practical part
Risk assessment templates and work instructions Schematised tasks in industrial environments Switchboard documentation, electrical diagrams and equipment manuals Safety Procedures Checklists Event scenarios (e.g. accidental voltage exposure, defective protective equipment) Scenario documents can be adapted to the participants' industry (e.g. wind, food industry, utilities).	12	Real-life equipment	Practical Part Material	Practical part
Switchboard systems and test stations. Low voltage switchboards, measuring equipment and simulated faults		Exercise equipment		Practical part
Personal protective equipment (PPE). Insulated gloves, helmets, visors, safety shoes		Exercise equipment		Practical part
Test and measuring instruments. Voltage testers, multimeters, phase testers		Exercise equipment		Practical part
Barrier equipment and marking. Locking equipment, security signs, access restriction		Exercise equipment		Practical part

Residual current triggers, fuses and contactors		Exercise equipment		Practical part
Mobile training equipment (e.g. simulator trolley or case for field exercises)		Exercise equipment		Practical part
Classroom with AV equipment, whiteboard, projector and access to e-learning platform		Infrastructure		Theoretical part
Electrical laboratory or workshop with divided zones for de-energised and live work		Infrastructure		Practical part
Storage and control rooms for PPE and measuring equipment with registration		Infrastructure		Practical part
Safety supervision and emergency preparedness, including first aid kit and emergency stop functions		Infrastructure		Practical part
Networking and access to digital learning materials (e.g. instructional videos, online test tools)		Infrastructure		Theoretical and Practical part

Note: The list is available for a group of 12 participants. For smaller or larger groups, the list must be adjusted accordingly.

5 Time Frame

Time	Part
60 hours	Theory: electrical technical knowledge, safety, laws and regulations, EN 50110-1, risk assessment, working methods, use of PPE, etc.
84 hours	Practical training exercises: voltage testing, measurement techniques, disconnection and fuse, practical scenarios, simulation of faults and emergencies, evaluation exercises
Total: 144 hours	*(Corresponds to 4 weeks 36 hours per week*

Note The timeframe may vary depending on the number of participants, the level of initial knowledge, the skills and abilities of the participants, and the need to meet the learning objectives.

6 Learning methods

Part	Learning method

Theory part	Classroom teaching, dialogue-based review, scenarios and group discussions. Use of visual materials (charts, videos), digital quizzes and e-learning. It also includes instruction in rules and standards based on real work situations.
Practical part	Practical training in workshop/laboratory. Exercises in measurement, troubleshooting, correct use of protective equipment, simulation of work tasks and incidents, as well as practical evaluation via instructor feedback and observation. Work tasks are carried out with increasing complexity and under supervision.

Note: Learning methods depend on the availability of infrastructure and equipment.

7 Main learning objectives of the module

The module's main learning objectives, expanded with **taxonomic level** (based on the Danish Qualifications Framework and Bloom's taxonomy) and divided into **Knowledge, Skills and Competences**. This makes the learning objectives more useful for assessment, evaluation and planning:

Key learning objectives	Competence	No.
Explain rules and standards for electrical work, including EN 50110-1, occupational health and safety legislation and allocation of responsibility.	Theoretical knowledge	*Describe, explain* (Taxonomy: Understanding)
Have knowledge of electrical hazards, working methods and necessary safety measures for low and high voltage work.	Theoretical knowledge	*Identify, account for* (Taxonomy: Knowledge and understanding)
Know the principles of tension-free work, working under and near voltage.	Theoretical knowledge	*Classify, describe* (Taxonomy: Understanding)

8 Theory part

8.1 Learning theory

The theoretical part of the module is designed to provide participants with a solid understanding of the rules, principles and risk assessments that underpin safe electrical practice. The teaching is carried out as a combination of classroom teaching, scenario-based dialogues and visual presentations (e.g. videos, whiteboard diagrams and simulated scenarios).

Where appropriate, **e-learning modules are used as preparation** so that physical teaching can focus on the application and discussion of knowledge in context. Emphasis is placed on **active participant involvement**, where theory is continuously linked to realistic work situations through reflection questions and group exercises.

Note: The course is not linearly divided into "first theory, then practice" – instead, a **cyclical approach is used**, where theoretical elements and practical exercises alternate and support each other to create deep understanding and safe behaviour.

8.1.1 The instructor must

The instructor has a central role in setting the framework for the learning scenario and ensuring that the participants understand both the content and the context, as well as how the learning is to be put into practice. At the start and during the theoretical part, the instructor must

- **Carry out an introduction to the module**, including presenting the purpose, learning objectives, module structure and safety significance of the course. The introduction is adapted to the participants' industry and function.
- **Create context by presenting a website or training location**, e.g. the electrical workshop, including clarification of rules, access conditions, emergency procedures and correct handling of equipment and PPE.
- **Present the theoretical material** with a focus on the participants' preconceptions. If the participants have completed e-learning beforehand, the instructor must verify the understanding via questions, tests or dialogue.
- **Activate participants** through the use of practice-oriented scenarios, group work and visual aids to link theory to real work situations.
- **Inform about the feedback form and evaluation**, including how the participants can continuously provide input to the teaching and the teaching method.
- **Collect and respond to feedback** after the first theory module, e.g. via a short evaluation (digital or oral), so that content and pedagogy can be adjusted along the way.

8.1.2 Each course participant must

Each course participant is expected to actively participate in the entire learning process and take co-responsibility for their own learning and safety. This means the following:

- **Complete the theoretical part** – either through classroom teaching or combined with e-learning.
- **Ask questions and engage in the teaching** – to clarify understanding and link learning to one's own practice.
- **Fill out feedback questionnaire** – for evaluation and improvement of teaching

8.1.3 Learning outcomes

Detailed learning outcomes	Key learning objectives
Can account for applicable regulations, standards and risks of electrical work	Understand and apply EN 50110-1 and occupational health and safety legislation correctly
Can use and control personal protective equipment and measuring equipment correctly	Carry out safety preparations and technical inspection tasks
Can carry out risk assessments and prepare work instructions for safe electrical tasks	Plan and document safe electrical work practices
Can work safely and responsibly on or near electrical installations	Demonstrate correct behaviour and understand his/her responsibilities as an electrical expert
Can respond appropriately to faults and deviations in electrical systems or work situations	Make decisions focused on safety and compliance with procedures
Can actively participate in strengthening safety culture and communicating knowledge to colleagues	Contribute to cooperation and prevention in the workplace

This structure ensures that the learning outcomes are **measurable, practice-oriented and clearly linked to the goals for certification or approval as an "electrically skilled person."**

8.2 Risk assessment

Risk assessment, adapted to *the Electrically Skilled Person* module, where risk assessment is a key area of competence in relation to electrical safety. I have adjusted and expanded both the instructor's role, the participant's tasks and the learning results, so that they become more specific and pedagogically sharp.

This part of the training focuses on building the participants' competencies in identifying hazards and conducting a systematic risk assessment in relation to electrical work. The exercise is linked to a specific learning scenario in a practice-oriented environment (e.g. low-voltage switchboard, industrial machine or simulated workstation).

8.2.1 The instructor must

- **Explain what a risk assessment is**, including its purpose, legal basis (e.g. the Working Environment Act, EN 50110-1) and application in practice.
- **Review the template for risk assessment**, e.g. *Electrical Task Risk Assessment_Template_V01*, and show a completed scenario (*Electrical Task Risk Assessment_Example_V01*).
- **Facilitate a risk assessment exercise**, where the participants in groups prepare a risk assessment based on a specific scenario (e.g. tensionless troubleshooting in a blackboard).

- **Managing the discussion and evaluation** of the prepared risk assessments and providing professional and pedagogical feedback.

8.2.2 Each course participant must

- **Ask questions and actively participate** in the discussion about risk understanding, including assessing which hazards are relevant in given scenarios.
- **Prepare a risk assessment in groups or individually** that covers:
  a) Identification of hazard sources (e.g. electric shock, arc, mis operation)
  b) Assessment of probability and consequence
  c) Proposals for preventive measures (PPE, working method, barriers)
  d) Any requirements for competencies and instruction

8.2.3 Learning outcomes

Detailed learning outcomes	Key learning objectives
Participants can identify specific electrical hazards and relate critically to the risk profile of the workplace	Have knowledge of hazardous electrical environment and can analyse a work situation.
Participants can plan and structure a risk assessment, including documenting relevant safety measures.	Can prepare risk assessment and use it actively in planning safe work.
Participants can use a risk assessment as a management tool in connection with electrical tasks.	Can act in accordance with a risk assessment and apply it in a practical context.

9 Practical part - introduction

9.1 General Introduction

This part of the learning scenario describes how the practical part of *the Electrically Skilled Person* module is organised. The training will give the participants the opportunity to apply their theoretical knowledge in realistic work situations with a focus on safe behaviour, correct tool use and methodical approach to electrical engineering tasks.

The training is organised in two main phases:

9.1.1 Skills training

Participants go through basic practical exercises in:

- Handling of measuring equipment (e.g. multimeter, voltage tester)

- Use of personal protective equipment (PPE)
- Disconnecting, securing and marking electrical installations
- Conducting Tension Testing and Testing Procedures. This phase ensures that participants build the necessary technical and motor skills before being exposed to more complex work situations.

9.1.2 Scenario training

The participants work with realistic scenarios and tasks where they must plan and carry out electrical work safely. Each scenario includes elements such as:

- Risk assessment and work instruction
- Preparation of the work site and equipment
- Execution of electrical engineering tasks under supervision
- Documentation and evaluation of the work

The scenarios can also be used as **a practical evaluation**, where the participants' competencies are assessed based on both technical execution and compliance with safety procedures.

9.1.3 The instructor must

- Monitor and guide the participants' performance
- Provide **constructive and ongoing feedback** on:
  a) The professional accuracy of the exercise
  b) Potential improvements in workflow and methodology
  c) Participant behaviour and attention to safety
- Adapt exercises and scenarios to the level of the participant group
- Make sure that all participants have the opportunity to ask questions and receive direct feedback along the way

9.1.4 The participant must

- Conduct skill drills with care and follow instructions
- Actively participate in scenario training and independently carry out tasks under supervision

- Continuously ask questions and seek clarification in relation to safety, methods and procedures
- Reflect on feedback and apply it for improvement

9.2 Practical training introduction

Before the practical exercises begin, a safety-oriented introduction to the workshop environment must be carried out, including practical conditions, correct behaviour and use of equipment. The introduction should ensure that all participants are familiar with procedures and expectations before working with electrical installations and tools.

Group division and staffing

- The participants are divided into smaller groups to ensure overview and safety during the exercises.
- **A maximum of 6 participants per instructor** for practical sessions – this is necessary to ensure adequate supervision and feedback.

Personal protective equipment (PPE) requirements

All participants and instructors must wear appropriate personal protective equipment in accordance with applicable laws and standards. Minimum requirements:

- Approved **workwear/overalls** with long sleeves
- **Safety shoes** with toe protection and non-slip sole
- **Safety helmet**
- **Safety glasses** or visor
- **Gloves** with minimum **ANSI cut resistance level A1**

The instructor is responsible for checking that PPE is used correctly and consistently throughout the exercise.

Initial instruction

Before the internship starts, the instructor must give a thorough instruction in:

- **All technical equipment and tools**, their operation and correct use
- **Workshop rules and behaviours**, including caution around live parts and colleagues' work areas

- **Obligation to report deviations** – e.g.:

  a) If a participant **feels unwell**, becomes dizzy, has pain or experiences physical discomfort

  b) In the event **of accidents, injuries or near misses** – regardless of whether they involve oneself or others

  c) If equipment behaves abnormally or defects are observed

The instructor must ensure that all participants are comfortable with how to report these conditions and emphasise that **safety is always a top priority**.

Securing the internship area

- Exclusion zones must be established and clearly marked around active workspaces.
- Only participants and instructors with tasks in the zone are allowed to stay there.
- Zone marking can be in the form of tape, barriers, or physical fencing, depending on local infrastructure.

This introduction forms the foundation for a **safe, controlled and educational practical training**, where both individual safety and the group's cooperation are given high priority.

10 Preparation for practical exercises

10.1 HSE briefing and PPE attire

This session ensures that all participants understand and properly apply applicable safety procedures (HSE) and personal protective equipment in the workshop environment.

10.1.1 The instructor must

- Review the risks and hazards in workshop zones, including electrical risks, accidental contact, and drop/crush injuries.
- Check that all participants are wearing PPE correctly and in accordance with standards.

10.1.2 The learning participant must

- Examine your own PPE equipment for damage and proper fit.
- Use PPE correctly during all exercises and take an active approach to your own safety and the safety of others.

- Demonstrate the ability to keep oneself out of danger in the practice zone.

Detailed learning outcomes	Key learning objectives
Understand the rules of proper manual handling and load prevention	Can plan and carry out safe work according to general HSE requirements
Can apply techniques in practice when lifting and physical strain	Can plan and carry out safe work according to general HSE requirements

10.1.3 Learning outcomes

Detailed learning outcomes	Key learning objectives
Can select and control proper PPE based on risk analysis	Can plan and carry out safe work according to general HSE requirements
Can wear PPE properly according to exercise and exercise activity	Can plan and carry out safe work according to general HSE requirements

10.2 Manual handling

Participants are prepared for physical strains that may arise in connection with electrical work (e.g. kneeling work, lifting switchboard components, inconvenient working positions).

10.2.1 The instructor must

- Carry out warm-up exercises and introduce proper lifting technique.
- Facilitate dialogue about ergonomics and injury prevention from physical strain.

10.2.2 The course participant must

- Actively participate in warm-up and practical training in lifting technique.
- Practice a correct working posture and ergonomically appropriate movements.

10.2.3 Learning outcomes

10.3 Checking equipment

Before using equipment, it must be checked for functionality, safety and proper storage. This applies to both power tools and measuring equipment.

10.3.1 The instructor must

- Review storage principles and demonstrate proper handling.
- Explain which indicators should be checked before and after use.

- Explain when equipment is quarantined and how to fill out the equipment checklist.

10.3.2 The course participant must

- Practice proper storage of equipment before, during, and after use.
- Practice checks before and after use, as well as identify defects.
- Practice checklist completion and understand when equipment should be quarantined.

10.3.3 Learning outcomes

Detailed learning outcomes	Key learning objectives
Understand the importance of proper storage and equipment control	Can plan and carry out safe work according to HSE requirements
Can perform inspection before/after use and identify faults	Can plan and carry out safe work according to HSE requirements
Can complete and apply equipment checklist correctly	Can provide written and oral documentation and report

11 Practical skills training

Practical skills training is an important part of the module and must be adapted to the participants' existing level of competence. Based on an initial assessment of the participants' skills (e.g. via conversation, test or observation), the instructor adapts the content and duration of the training.

At different skill levels, training should be organised so that all participants reach a minimum level that enables them to complete the learning scenarios safely and competently. For experienced participants, the training will serve as repetition and quality assurance, for less experienced as an introduction and basic upskilling.

11.1 Examples of skills training exercises related to the electrical safety scenario:

- Performing tension testing and proper use of test instruments
- Proper disconnection, securing and marking of electrical equipment
- Use of protective equipment and correct positioning in the work zone
- Practice in preparing risk assessment and work instructions
- Simulation of emergency stops and incident behaviour

Practical exercises must be carried out on equipment and switchboards that can simulate realistic conditions in low-voltage or industrial environments.

11.2 Use of measuring equipment and voltage testers

11.2.1 Description of skills exercise:

The exercise trains the correct use of voltage testers and multimeter in relation to electrical safety, including pre- and post-checks, interpretation errors and typical risks.

11.2.2 The instructor must

- Review the function and construction of measuring equipment
- Demonstrate the correct test method and show typical errors (e.g. measurement without grounding)
- Monitor participants' testing methods and provide individual feedback

11.2.3 Each course participant must

- Perform voltage testing on simulated panel or component
- Document results and respond appropriately to measurements
- Check the condition of the equipment before and after use

11.2.4 Learning outcomes

Detailed learning outcomes	Key learning objectives
The participant can use test equipment correctly in a safety context	Can plan and carry out safe work in accordance with standards
The participant can identify mismeasurement and respond appropriately	Can act safely and professionally in risky situations

12 Learning scenario

12.1 Introduction to the scenario

The participants must complete several practical scenario-based exercises based on a **low-voltage system in a simulated industrial environment**, e.g. a switchboard or engine installation, which must be inspected, risk assessed and maintained.

The purpose is to train safe planning, correct use of protective equipment, tension testing and documentation of the work. If realistic installations are not available, the exercise must be conducted

on equipment that **simulates relevant environments and functions** (e.g. teaching boards, test stands, exercise models).

12.2 Exercise 1 – Risk assessment and safety plan

12.2.1 Description of the exercise

Participants must plan and document a risk assessment for electrical maintenance work on a low-voltage switchboard. The exercise trains overview, systematics and use of safety standards.

12.2.2 The instructor must

- Review a template and a sample risk assessment.
- Facilitate discussion and help participants identify risks and appropriate measures.
- Evaluate participants' risk assessments and provide feedback.

12.2.3 Each course participant must

- Conduct a risk assessment in small groups.
- Fill in documentation according to the template.
- Present and justify their assessments to the instructor and colleagues.

12.2.4 Learning outcomes

Detailed learning outcomes	Key learning objectives
Can identify electrical hazards and assess risk level	Have knowledge of hazardous environment and risk planning
Can document a risk assessment correctly	Can plan and carry out safe work in accordance with EN 50110-1
Can collaborate and reflect on the assessments of others	Can communicate and collaborate in a technical context

12.3 Exercise 2 – Voltage testing and disconnection

12.3.1 Description of the exercise

The drill trains proper and safe voltage testing, including checks before/after use of equipment, use of PPE and proper handling of de-energised installations.

12.3.2 The instructor must

- Demonstrate proper voltage testing with test equipment.
- Monitor participants and correct inappropriate behaviour.

- Evaluate whether procedures are being followed correctly.

12.3.3 Each course participant must

- Perform voltage testing and secure the system correctly.
- Check the equipment and use PPE correctly.
- Document the execution of the work and measurement results.

12.3.4 Learning outcomes

Detailed learning outcomes	Key learning objectives
Detailed learning outcomes	Key learning objectives
Can use voltage tester correctly and safely	Can perform voltage-free work according to regulations
Can use PPE and follow safety procedures	Can work safely in electrical conditions
Can document results in control form	Can provide written documentation of technical quality

12.4 Exercise 3 – Troubleshooting and corrective action

12.4.1 Description of the exercise

The scenario simulates a fault in an electrical component (e.g., overheating, interrupted phase, improper connection). Participants must pinpoint the error and suggest appropriate actions.

The instructor must

- Create realistic failure scenario.
- Guide, reflection and clarifying questions along the way.
- Provide technical and pedagogical feedback after completion.

12.4.2 Each course participant must

- Perform measurements and identify the fault.
- Suggest and document correction and prevention.
- Explain the procedure to the team.

12.4.3 Learning outcomes

Detailed learning outcomes	Key learning objectives
Detailed learning outcomes	Key learning objectives

Can use measuring equipment and identify typical faults	Can troubleshoot electrical installations
Can suggest relevant actions based on error	Can act in accordance with technical and safety knowledge
Can explain and communicate technical process to others	Can communicate and document technical content clearly

12.5 Exercise 4 – Final reporting and reflection

12.5.1 Description of the exercise

The final exercise focuses on clear and reflective reporting of previous exercises, assessment of safety behaviour and technical precision.

12.5.2 The instructor must

- Pick up on all exercises and review documentation with the participants.
- Have a joint discussion about learning, mistakes, improvements and future actions.
- Provide individual feedback and feedback.

12.5.3 Each course participant must

- Complete control and inspection forms.
- Write a proposal for the next step in terms of maintenance, based on found errors or defects.
- Present oral summary and receive feedback.

12.5.4 Learning outcomes

Detailed learning outcomes	Key learning objectives
Detailed learning outcomes	Key learning objectives
Can document technical observations clearly and accurately	Can submit written and oral reports
Can suggest next steps based on analysis and assessment	Can apply electrical technical knowledge to make decisions
Can receive and use feedback constructively	Can reflect and develop professional practice

13 Completion of the practical part of the training

13.1 Safely Disassembling and Storing Tools

This final exercise aims to ensure that participants can complete practical work tasks in a safe, systematic and responsible manner. This includes **cleaning the workstation**, **safely disassembling equipment**, and properly **checking and storing tools and accessories** so that they are ready for future use and do not pose a risk to subsequent users.

13.1.1 The instructor must

- Review and explain the correct order of disconnection, disassembly, and cleanup.
- Point out common errors and deficiencies in connection with storage, e.g. damaged or incomplete equipment.
- Supervise and provide feedback during the participants' clean-up.

13.1.2 Each course participant must

- Ensure that all tools and equipment are dismantled **in accordance with applicable safety procedures**, including disconnecting power and equalizing residual energy, if applicable.
- Clean and **inspect tools and accessories** for damage or defects.
- Return all equipment to **proper and labelled storage space**.
- Document any errors, damages, or defects to the instructor

13.1.3 Learning outcomes

Detailed learning outcomes	Key learning objectives
Detailed learning outcomes	Key learning objectives
Participants understand the importance of proper cleaning and storage	Can plan and carry out safe work in accordance with HSE requirements
Participants can inspect tools for damage before storage	Can identify faults and act according to safety procedures
Participants can document faults and damaged equipment correctly	Can submit written and oral reports

14 Learning module and scenario evaluation

The evaluation of the learning module consists of both **theoretical and practical assessments**, which document the participants' competences in relation to the learning objectives. The evaluation is carried out on an ongoing basis by the instructor and includes testing, observation, documentation review and reflection.

Module part	Name of the exercise	Evaluation method
Module part	Name of the exercise	Evaluation method
Theory	Basic electrical engineering theory and safety requirements	Written test assignment with multiple-choice questions and short explanations
Theory	Risk assessment	Instructor evaluation of the participant's written risk assessment and oral presentation
Preparation for practice	HSE briefing and PPE attire	Observation and assessment of the correct use and selection of protective equipment during practical preparations
Preparation for practice	Manual handling	Observation and assessment of lifting techniques and working position during exercise
Preparation for practice	Checking and storing equipment	Review of equipment control chart and evaluation of proper storage
Practical skills training	Voltage testing and use of measuring equipment	Instructor evaluation of the participant's measurement technique, safety, and documentation
Practical skills training	Disconnection and fuse	Observation of correct work procedure and risk awareness
Learning scenario	Risk assessment in the electrical environment	Assessment of risk assessment document and participant's reflection on work situation
Learning scenario	Voltage testing and documentation	Observation and review of participant documentation and safety practices
Learning scenario	Debugging and corrective action	Observation of troubleshooting and assessment of technical solution proposals and reflection
Learning scenario	Final reporting and presentation	Assessment of the participant's written documentation, reflection and oral presentation (feedback round)
Completion of practical part	Dismantling and tool storage	Instructor evaluation based on proper disassembly, inspection, and storage

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