**ECVET Earth Building** 

## Repair and conservation: Plaster and building

Unit R

Learning outcomes	Level <b>5</b>
KNOWLEDGE	SKILLS
<ul> <li>Significance of historic building culture</li> <li>Conservation of traditional earthen techniques and materials</li> <li>Global diagnosis of earthen buildings</li> <li>Major pathology with potential for collapse</li> <li>Specific recommendations for surface maintenance, fixing</li> <li>Cultural achievements of the workers in the field of earthen architecture</li> <li>Socio-economic benefits versus financial costs</li> <li>Resources (specialised literature, organisations, professional networks)</li> <li>Innovation and development related to repair earth construction</li> </ul>	Planning  Observe and deduce the building composition, investigate and coordinate samples of earthen elements if necessary  Monitor (observe, analyse and report) the building state (external and internal water and humidity, damages, local environment)  Assess the impact of changing external factors on the building (climate, vegetation, other constructions, ground level)  Discuss different options for repair on a building's life cycle  Assess the stresses and transfer of forces applied on a structure and if necessary adapt the engineering design  Identify appropriate equipment, materials and workers needed for repair existing earthen structures  Calculate earth required for repair and maintenance  Analyse earth resources  Organise a specific waste management plan and re-use of earthen materials  Plan the sequence of works to ensure stability and protection of the earth structure and related elements  Provide specific recommendations for maintenance in the user manual for clients and other professionals  Coordination  Coordinate urgent interventions  Organise the workforce and coordinate the team for optimum workflow in earth repairs, maintenance and surface treatments  Organise interventions by specialists in earthen construction where necessary  Liaise with and control various trades related earth repairs, maintenance and surface treatments  Modify program against earth related incidents  Controls  Check if repairs are done in accordance with specification  Check that the repair process respects the historic and aesthetic aspects  Check that the workers know the limits of stability and that any temporary supports are maintained  Check the correct application of the site health & safety plan

## **COMPETENCE**

- Create confidence on site and underline the particular issues relating to earthen structures and repair through site inductions and training where necessary
- Assist the engineer/architect in assessing existing earthen structures and secure the site: observe, report, calculate, recommend
- Integrate special earth construction and repair issues into the general site managing tasks: order, planning works and budget, health and safety, controls, handing over
- Manage the drying of the repairs
- Understand the buildings construction and heritage significance

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Criteria and Indicators for the Assessment of Skills Level 5	
Criteria	Indicators
Planning	<ul> <li>The defects and their causes are identified and described</li> <li>The proposed repairs, materials and workforce are suitably planned</li> <li>Risk areas are flagged or fenced and earth activities are included in the site health &amp; safety plan</li> </ul>
Coordination	<ul> <li>The earth building competence of the team is assessed and training needs identified</li> <li>The workers are aware of the special needs of earth construction and understand the requirements of the earth repairs</li> <li>The sequence of tasks are well programmed</li> <li>The work plan and cost plan are up-dated in light of events</li> <li>Options are evaluated and changes are reported to the client and architect/engineers</li> <li>The repairs as they progress and any deviations from the plan are recorded</li> </ul>
Controls	<ul> <li>The effects of possible changes on site are anticipated and contingency plans are in place</li> <li>The works are as intended in design and quality, and any variation is coordinated</li> <li>The heritage is respected</li> <li>The site is managed safely:         <ul> <li>Personal protection equipment is adapted to risks and is used according to safety instructions</li> <li>Equipment is used according to safety instructions.</li> <li>All protective safeguards are in place</li> <li>Erection of ladders and scaffolding according to regulations</li> </ul> </li> </ul>

Ensure that standards of work and materials comply with relevant codes of practice and to current standards.