

ECVET Earth Building	CobBauge Construction	Unit B sub unit
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Learning outcomes		Level 7
KNOWLEDGE	SKILLS	
<ul style="list-style-type: none"> - Relationship between earth materials and modern architectural aesthetics - Environmental performance of raw earth materials, from a local and global point of view: grey energy, carbon footprint, recycling, toxicity, transport, water consumption, short circuits, social intensity) - Specific features of the design of a raw earth structure - Different traditional and contemporary earthen construction techniques - Mechanical behaviour of earthen structures - Hygrothermal behavior of raw earth structures - Acoustic behaviour of earthen structures - Materiality of earthen structures depending on the implementation techniques - Specificities of the planning of raw earth worksites - Protection during construction and after completion of earthworks: equipment and time investment - Suppliers, procurement, storage and handling of materials, costs - Behaviour of earthen structures with water - Evolution of earthen structures under construction: shrinkage, drying, humidity, final strength, final surface, efflorescence, mould - The constraints to which the structures will be subjected, depending on the contractual documents, regulations, natural hazards (seismic, flooding, snow, etc.) - Innovation, development and references related to mud construction - Earth construction professionals - Networks - Qualifications - Suppliers & companies - Codes and rules applying to mud construction 	<p>Make design choices related to the material not just aesthetics</p> <p>Communicate design choices</p> <p>Knowing how to integrate and transcribe the data and remarks of the various stakeholders (companies, design offices) in the design</p> <p>Create a climate of trust and highlight the peculiarities of the land during site meetings and through training if necessary</p> <p>Subscribe to environmental protection standards and integrate them into business consultation documents (DCE) and special technical clauses (CCTP): waste management, environment, heritage</p> <p>Knowing how to control and impose the rules, procedures and quality instructions (PAQ quality assurance plan) in connection with the soil, in the various phases of the site.</p> <p>Repeat if necessary.</p>	

- Design
- Technically dimension the earthen structures
- Master the expression and atmosphere produced by earthen structures
- Master the representation of earthen structures
- Know how to adapt the overall architectural design to the properties of the earth used, in particular the sizing of other structures, including roofs, foundations etc
- Consult with suppliers, companies
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- - Define the place of earthen structures in the definition and allocation of lots
- - Identify and adapt the lots in connection with the earthworks
- - Describe earthen structures in company consultation documents (DCE) and special technical clauses (CCTP)
- - Technically and economically analyze tenders
- - Report to the various actors
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- Plan and coordinate
- Know how to program deadlines and specifics of earthen construction into a site planning according to:
 - technique
 - soil supply
 - drying and removal of the earth material
- Liaise with and control various trades related to earthworks
- Instruct other trades in temporary shoring and protection of earthen structures
- Modify the program in case of earth-related incidents
- Document the progress and quality of the work
- Collect and harmonize the specific recommendations for maintenance in the guide for the user and other professionals (DIUO Subsequent intervention file on the structure)
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- Control
- Check conformity of materials and implementation (visual and manual inspection, examination of homogeneity, surface finish, eg by taking samples)
- Check structural stability and protection of workers during the construction and drying phases,
- Control waste management concerning the land lot

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Criteria and Indicators for the Assessment of Skills		Level 7
Criteria	Indicators	
Planning	<ul style="list-style-type: none"> - The earth works are identified and coordinated with other activities - The design is checked and any problems related to earth identified - Earth activities are included in the site health and safety plan 	
Coordination	<ul style="list-style-type: none"> - The earth building competence of the team is assessed and training needs identified - The workers are aware of the special needs of earth construction and understand the requirements of the earth - The earth elements have appropriate protection during & after construction - The quality of the earth construction is controlled and documented appropriately - The work plan and cost plan are up-dated in light of events - Concerns in unpredictable situations are reported Variations are reported 	
Controls	<ul style="list-style-type: none"> - The stability of the wall is ensured - The work is completed on time and according to cost - The effects of possible changes on site are anticipated and contingency plans are in place - The works are as intended in design and quality, and any variation is coordinated - The site is managed safely: <ul style="list-style-type: none"> o Personal protection equipment is adapted to risks and is used according to safety instructions o Equipment is used according to safety instructions. o All protective safeguards are in place o Erection of ladders and scaffolding according to regulations 	

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