

MANAGE CIVIL ENGINEERING PROJECTS

UNIT CODE : CON/OS/CET/CR/13/6/A

UNIT DESCRIPTION

This unit describes the competencies required to manage civil engineering projects. It involves managing project time, managing construction project quality, managing project site safety, health and security, managing construction project cost, managing project labour, managing project contracts and managing construction materials, plant, tools and equipment.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENTS These describe the key outcomes which make up workplace function	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements <i>(Bold terms are elaborated in the Range)</i>
1. Manage project time	1.1. Work schedules and time programmes are prepared based on the project specifications 1.2. Project timelines are monitored and evaluated based on the project specifications 1.3. Project time schedules are controlled based on the project specifications 1.4. Project timeline reports are prepared and disseminated based on the project specifications
2. Manage construction project quality	2.1. Construction project quality plans are developed according to the contract specifications 2.2. Construction project methodology are developed according to the contract specifications 2.3. Construction project resources are acquired according to the contract specifications 2.4. Construction project quality control are undertaken according to the contract specifications 2.5. Construction project quality reports are prepared according to the contract specifications
3. Manage project site, safety, health and security	3.1. Project health, safety and security guidelines are developed in line with the OSH Act 3.2. Site health, safety and security inspections are conducted in line with the OSH Act 3.3. Project site security is coordinated and monitored in line with the OSH Act
4. Manage construction project cost	4.1. Project budget is prepared according to the scope of the project

ELEMENTS	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function	These are assessable statements which specify the required level of performance for each of the elements <i>(Bold terms are elaborated in the Range)</i>
	4.2. Site resource utilization are procured, allocated and monitored according to the project scope 4.3. Project cost variation is controlled as per SOPs 4.4. Project financial report is prepared
5. Manage project labour	5.1. Project labour guidelines is developed in line with Labour laws and FIDIC regulations 5.2. Labour levelling plan is established 5.3. Staff is allocated 5.4. Labour welfare is managed 5.5. Project labour report is prepared
6. Manage project contracts	6.1. Project documentation are managed 6.2. Project stakeholders are engaged 6.3. Construction project works are inspected 6.4. Project information is managed 6.5. Project implementation report is prepared
7. Manage construction materials, plant, tools and equipment	7.1. Site storage facility is prepared 7.2. Construction materials schedule is prepared 7.3. Construction equipment schedule is prepared 7.4. Construction materials and equipment are procured 7.5. Construction materials and equipment are issued

RANGE

Variable	Range
1. Project implementation report may include but is not limited to:	<ul style="list-style-type: none"> • Daily • Monthly • Project progress report
2. Construction materials may include but is not limited to:	<ul style="list-style-type: none"> • Roofing • Walling • Flooring • Finishing • Reinforcing
3. Construction equipment may include but is not limited to:	<ul style="list-style-type: none"> • Excavation • Lifting • Transporting

REQUIRED KNOWLEDGE AND SKILLS

Knowledge

- Construction dimensions
- Interpretation of Architectural drawing
- Local authority by-laws
- Building code
- Structural elements
- Codes of practice
- Basic arithmetic
- Measurement
- Engineering drawing
- Plumbing
- Structural design
- Mechanical systems
- Engineering software
- Civil engineering drawings
- Safety practices
- First Aid
- Occupation Safety and Health
- Engineers Act
- Code of Ethics
- CAD

Skills

- Measurement
- Basic arithmetic
- Design
- Computer
- Computer aided design
- Planning

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Managed project time 1.2 Managed construction project quality 1.3 Managed project site safety, health and security 1.4 Managed construction project cost 1.5 Managed project labour 1.6 Managed project contracts
2. Resource Implications	2.1 Measuring and drawing tools

	<ul style="list-style-type: none"> 2.2 Laptops 2.3 Desktop PCs 2.4 Printer/plotting device 2.5 Calculator 2.6 Internet 2.7 Codes of practice/manuals 2.8 Mechanical conventions 2.9 Human resource 2.10 CAD Software 2.11 Project Management software and tools
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Demonstration 3.2 Practical assignment/project 3.3 Interview/Oral Questioning 3.4 Written
4. Context of Assessment	Competency may be assessed in an off and/or on the job setting
5. Guidance information for assessment	Holistic assessment with other units relevant to the building sector workplace and job role is recommended.

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