

PERFORM WEBSITE DESIGN AND DEVELOPMENT

TVET CDACC UNIT CODE: SEC/OS/CS/CR/07/5/MA

Unit Description

This unit specifies competencies required Perform Website Design and Development. It involves gathering data required, determining website design tool, developing functional website, host website developed and perform website routine maintenance.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	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 and italicised terms are elaborated in the Range)</i>
1. Gather data required for website development	1.1 All client requirements, including target audience, site objectives, and functionality needs, are documented in a project brief that is at least 95% complete according to the client's feedback. 1.2 Market and competitor research findings are compiled into a clear, organized report with a minimum of three competitor analysis entries. 1.3 All multimedia assets (text, images, videos, branding elements) are collected, named consistently, and stored in an accessible folder structure with no missing files before development starts.
2. Determine Website design tool	2.1 At least two suitable design tools are compared in a short report based on criteria such as compatibility, cost, features, and ease of use.

	2.2 The selected tool is approved by the project supervisor/client and documented in the project plan with a clear justification. 2.3 The chosen tool is successfully installed/configured on the developer's workstation within one business day of approval.
3. Develop functional website	3.1 The website meets the documented functional requirements such as navigation, forms submit correctly, and media loads properly during testing. 3.2 All page's load within a reasonable amount of amount of time such as three seconds under normal internet speeds (5–10 Mbps) when tested. 3.3 The design is fully responsive, passing a mobile-friendly test on at least three different devices/screen sizes without layout breakage.
4. Host Website developed	4.1 The website is uploaded to the hosting server with no missing files or broken links as verified by a post-deployment test. 4.2 The domain is correctly linked to the hosting server and resolves without errors within 24 hours of deployment. 4.3 SSL/TLS certificate is installed, and the site passes a basic security scan with no high-severity issues.
5. Perform Website Routine Maintenance	5.1 All CMS, plugins, and security updates are applied within 48 hours of release. 5.2 A full site backup (files + database) is created and verified at least once per week. 5.3 Site performance is monitored, with load times kept under three seconds and zero downtime exceeding two consecutive hours in any given

	month.
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RANGE

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Website application design tools may include but are not limited to:	• Vscode • WordPress/Joomla/Drupal • Xampp/Nginx
2. Website application design approaches may include but are not limited to:	• Static • Dynamic • Adaptive • Mobile first • Progressive • Single page application
3. Website application visual hierarchy may include but are not limited to:	• Graphical user interface • Site Map • Typography • Color • Layout
4. Website application testing techniques may include but are not limited to:	• Functional testing • Usability testing • Interface testing • Compatibility testing • Performance testing • Security testing.

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

REQUIRED KNOWLEDGE

The individual needs to demonstrate knowledge of:

- Documentation processes

- Technology trends in development of website design.
- Coding skills in HTML, CSS and JavaScript.
- Bug fixing.
- Types of maintenance techniques

Required skills

The individual needs to demonstrate the following skills:

- Report Writing
- Data collection
- Analytical skills
- Problem solving skills
- Communication skills
- Time management
- Critical thinking

EVIDENCE GUIDE

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

1. Critical aspects of competency	1.1 Documented website user requirements specifications process as per the user needs. 1.2 Developed <i>website application visual hierarchy</i> as per the user needs. 1.3 Created website application site map as per the user needs. 1.4 Created front end web pages per website application design. 1.5 Created front end web pages per website application design. 1.6 Created back-end web pages as per website application design. 1.7 Integrated website application to the backend as per workplace procedure. 1.8 Uploaded website application files as per host requirements.
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	1.9 Configured website server as per host requirements. 1.10 Installed SSL/TLS certificate and performed basic scan as per the security standards. 1.11 Fixed website application bugs as per monitoring report. 1.12 Updated website application as per the workplace procedures.
2. Resource implications	The following resources should be provided: 2.1 Appropriately simulated environment where assessment can take place. 2.2 Access to relevant work environment. 2.3 Resources relevant to the proposed activities or tasks.
3. Methods of assessment	Competency may be assessed through: 3.1 Practical 3.2 Projects 3.3 Third Party Reports 3.4 Portfolio of evidence 3.5 Written tests
4. Context of assessment	Competency may be assessed in a workplace or in a simulated workplace.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace job role is recommended.