



REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARD

FOR

COMPUTER SCIENCE TECHNICIAN

KNQF LEVEL 6

(CYCLE 3)

PROGRAMME ISCED CODE: 0613 554 A.



TVET CDACC
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DESIGN WEB APPLICATIONS

ISCED UNIT CODE: 0613 554 06A

UNIT CODE: ICT/OS/CS/CR/10/6/MA

UNIT DESCRIPTION

This unit covers the competencies required to demonstrate web design skills. It involves understanding HTML basics, using HTML elements, demonstrating web page formatting, applying styles, understanding JavaScript basics, using JavaScript data types, using JavaScript functions and using JavaScript libraries.

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 italicized terms are elaborated in the range.)</i>
1. Apply HTML basics	1.1 Terminologies used in HTML are applied 1.2 A HTML file is created 1.3 HTML core elements are applied 1.4 HTML core elements are integrated
2. Use HTML elements	2.1 Basic HTML elements are identified 2.2 Basic HTML elements are added to a HTML document 2.3 HTML Attributes are applied 2.4 Attributes are added to elements
3. Demonstrate web page formatting	3.1 Layout elements are selected 3.2 Layout elements are added to the HTML document 3.3 Layout element attributes are added to the HTML document
4. Apply styles	4.1 Style concepts are selected 4.2 Internal styles are applied 4.3 External CSS file is created
5. Identify JavaScript basics	5.1 JavaScript principles are applied 5.2 JavaScript syntax applied 5.3 HTML element attributes are accessed using JavaScript Document Object Model (DOM) 5.4 HTML element attributes are changed using DOM
6. Apply JavaScript data types	6.1 JavaScript data types are applied 6.2 Operations on the data types are performed 6.3 Operations on arrays is performed

ELEMENT 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 and italicized terms are elaborated in the range.)</i>
7. Use JavaScript functions	7.1 Structure of a JavaScript function is applied. 7.2 A JavaScript function is created 7.3 A JavaScript function is invoked 7.4 Values are returned using functions
8. Use JavaScript libraries	8.1 Concepts of libraries are applied. 8.2 JQuery framework is utilized 8.3 Installation of JQuery is performed 8.4 Referencing of JQuery is performed 8.5 JQuery syntax is applied 8.6 JQuery events are implemented. 8.7 DOM Manipulation with JQuery is performed

RANGE

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

Variable	Range
1. Terminologies used in HTML may include but not limited to:	<ul style="list-style-type: none"> ● Document ● Stylesheet ● Element ● Attribute
2. HTML core elements may include but not limited to:	<ul style="list-style-type: none"> ● <head> ● <title> ● <body> ● <html>
3. Basic HTML elements may include but not limited to:	<ul style="list-style-type: none"> ● <p> ●
 ● <h1>
4. Attributes may include but not limited to:	<ul style="list-style-type: none"> ● src ● alt ● href
5. Layout elements may include but not limited to:	<ul style="list-style-type: none"> ● <header> ● <nav> ● <section> ● <footer>
6. Layout element attributes may include but not limited to:	<ul style="list-style-type: none"> ● Class ● Id ● name

Variable	Range
7. Style concepts may include but not limited to:	<ul style="list-style-type: none"> ● Background ● Padding ● Alignment ● Border
8. JavaScript data types may include but not limited to:	<ul style="list-style-type: none"> ● Strings ● Numbers ● Booleans
9. Operations on arrays may include but not limited to:	<ul style="list-style-type: none"> ● count () ● pop() ● push ()
10. JQuery events may include but not limited to:	<ul style="list-style-type: none"> ● Mouse events ● Keyboard events ● Form events ● Document / window events

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

The individual needs to demonstrate the following skills:

- Communications (verbal and written);
- Time management;
- Problem solving;
- Planning;
- Decision Making;
- Research;

Required knowledge

The individual needs to demonstrate knowledge of:

- HTML basics
- HTML elements
- Web page formatting
- Styling
- JavaScript basics
- JavaScript data types
- JavaScript functions
- JavaScript libraries

EVIDENCE GUIDE

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

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Created a HTML document 1.2 Added attributes to HTML documents 1.3 Formatted a web page 1.4 Added styles to a web page 1.5 Demonstrated the importance of JavaScript 1.6 Use JavaScript to change HTML elements 1.7 Demonstrated event handling in JQuery
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Access to relevant workplace where assessment can take place 2.2 Appropriately simulated environment where assessment can take place
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Oral questioning 3.2 Practical demonstration 3.3 Observation 3.4 Written test
4. Context of Assessment	<p>Competency may be assessed</p> <ul style="list-style-type: none"> 4.1 Off the job 4.2 on the job 4.3 During industrial attachment
5. Guidance information for assessment	<p>5.1 Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>