



REPUBLIC OF KENYA

COMPETENCY BASED MODULAR CURRICULUM

FOR

COMPUTER SCIENCE

KNQF LEVEL 6

(CYCLE 3)

PROGRAMME ISCED CODE: 0613 554 A.



TVET CDACC
P.O. BOX 15745-00100
NAIROBI

WEB DESIGNING

ISCED UNIT CODE: 0613 554 06A

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

Relationship to Occupational Standards

This unit addresses the unit of competency: Design Web Applications

Duration of Unit: 220 hours

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.

Summary of Learning Outcomes:

Learning Outcomes	Durations (Hours)
1. HTML basics	20
2. HTML elements	40
3. Web page formatting	25
4. Styles	30
5. JavaScript basics	25
6. JavaScript data types	30
7. JavaScript functions	20
8. JavaScript libraries	30
TOTAL	220

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Method
1. HTML basics	1.1 Definition of HTML 1.2 HTML terminologies 1.2.1 Document 1.2.2 Stylesheet 1.2.3 Element 1.2.4 Attribute 1.3 Creation of HTML file 1.3.1 Document type declaration 1.3.2 Saving as .html file 1.4 HTML core elements 1.4.1 <head> 1.4.2 <title> 1.4.3 <body> 1.4.4 <html> 1.5 Integration of HTML core elements to file	• Practical tests • Written tests • Oral tests
2. HTML elements	2.1 Basic HTML elements 2.1.1 <p> 2.1.2 2.1.3 <h1> 2.2 Addition of basic HTML elements to HTML document 2.3 Definition of attributes 2.3.1 src 2.3.2 alt 2.3.3 href 2.4 Addition of attributes to elements	• Practical tests • Written tests • Oral tests
3. Web page formatting	3.1 Layout elements 3.1.1 <header> 3.1.2 <nav>	• Practical tests • Written tests

	3.1.3 <section> 3.1.4 <footer> 3.2 Addition of layout elements to HTML document 3.3 Addition of layout element attributes to HTML document 3.3.1 class 3.3.2 id 3.3.3 name	• Oral tests
4. Styles	4.1 Style concepts 4.1.1 background 4.1.2 padding 4.1.3 alignment 4.1.4 border 4.2 Application of internal styles 4.3 Creation of external CSS file	• Practical tests • Written tests • Oral tests
5. JavaScript basics	5.1 Purpose of JavaScript 5.2 JavaScript syntax 5.3 Accessing HTML element attributes using the JavaScript Document Object Model (DOM) 5.4 Changing HTML element attributes using JavaScript DOM model	• Practical tests • Written tests • Oral tests
6. JavaScript data types	6.1 JavaScript data types 6.1.1 Strings 6.1.2 Numbers 6.1.3 Booleans 6.2 Data type operations 6.2.1 Variables declarations and scope 6.2.2 Expressions 6.2.2.1 Arithmetic	• Practical tests • Written tests • Oral tests

	6.2.2.2 Boolean 6.2.2.3 String concatenation 6.3 Arrays operations 6.3.1 count () 6.3.2 pop () 6.3.3 push()	
7. JavaScript functions	7.1 JavaScript function structure 7.2 Creation of JavaScript function 7.3 Invoking of JavaScript function 7.4 Returning values from functions	• Practical tests • Written tests • Oral tests
8. JavaScript libraries	8.1 Libraries concept 8.2 JQuery framework 8.3 Installation of JQuery 8.4 Referencing JQuery 8.5 JQuery syntax 8.6 JQuery events 8.6.1 Keyboard 8.6.2 Mouse 8.6.3 Form 8.6.4 Document Window 8.7 DOM manipulation with JQuery	• Practical tests • Written tests • Oral tests

Suggested Methods of Instruction

- Presentations and practical demonstrations by trainer;
- Guided learner activities and research to develop underpinning knowledge;
- Supervised practical assignments and projects

Recommended Resources for 25 trainees

S/No.	Category	Item Description / Specifications	Quantity	Recommended Ratio (Trainee: Item)
1	Learning Materials	Web development textbooks covering HTML5, CSS3, JavaScript, and jQuery	25	1:1
2		Practical lab manuals and code snippet handouts	25 Sets	1:1
3		Access to online platforms		1:1
4	Learning Facilities	Computer lab with 25 workstations, smart board/projector, whiteboard, ergonomic chairs & desks	1 Room	-
5		Projector / LED Screen	1 Unit	1:25
6	Infrastructure	Stable internet connection	1 Setup	-
7		Power backup system (UPS or generator)	1 Unit	-
8	Tools & Equipment	Laptops or Desktops	25	1:1
9		Text editors (e.g., Visual Studio Code, Sublime Text, Notepad++)	25 Installs	1:1
10		Web browsers		1:1
11		Code playgrounds (e.g., CodePen, JSFiddle, Repl.it)	25 Logins	1:1

12		Git and GitHub account setup for version control and collaboration	25	1:1
13	Software/Frameworks	Node.js & NPM (for package management and jQuery use)	25 Installs	1:1
14		jQuery library (locally or via CDN reference)	Shared	-
15	Consumable Materials	Printed HTML/CSS/JavaScript cheat sheets, exercise files, notebooks, pens	25 Sets	1:1
16		Flash drives or shared cloud storage (Google Drive/OneDrive/Dropbox) for code backup	10	1:2.5
17	Safety & Support	Surge protectors, antivirus software, fire extinguisher, cleaning supplies	5 Kits	1:5