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NCFE Level 3 Certificate in Web Design (603/7370/2)

Qualification Specification

Contents

Section 1

About this qualification

Introduction

This qualification specification contains details of all the units and assessments required to complete this qualification.

To ensure that you are using the most up-to-date version of this qualification specification, please check the version number and date in the page footer against that of the qualification specification on QualHub.

If you advertise this qualification using a different or shortened name, you must ensure that learners are aware that their final certificate will state the full regulated qualification title.

Support handbook

This qualification specification must be used alongside the mandatory support handbook on the qualifications page on QualHub, which contains additional supporting information to help with the planning, delivery and assessment, such as:

- definition of total qualification time (TQT)
- quality assurance
- staffing requirements
- assessment
- qualification support
- diversity and equality

This qualification specification contains all of the qualification-specific information you will need that is not covered in the support handbook.

Qualification summary	
Qualification title	NCFE Level 3 Certificate in Web Design
Qualification number (QN)	(603/7370/2)
Aim reference	(60373702)
Total qualification time (TQT)	285
Guided learning hours (GLH)	190
Minimum age	16
Qualification purpose	This qualification is designed for learners who are working or would like to work in a web design team or as a freelance web designer and want to increase their knowledge, skills and understanding or seek an opportunity for relevant employment.
Aims and objectives	This qualification aims to: • focus on the study of web design • offer breadth and depth of study, incorporating a key core of knowledge • provide opportunities to acquire a number of practical and technical skills The objectives of this qualification are to: • understand the roles and responsibilities that can be found within a web design team • create a web page using HTML • use CSS to format text and understand colours and backgrounds • use JavaScript and the Document Object Model (DOM) in order to access and change elements, attributes and contents • understand the fundamentals of web images and Scalable Vector Graphics (SVG)
Rules of combination	To be awarded the NCFE Level 3 Certificate in Web Design (603/7370/2), learners are required to successfully complete 5 mandatory units.
Grading	Achieved/not yet achieved
Assessment method	Internally assessed and externally quality assured portfolio of evidence
Progression	Learners who achieve this qualification could progress to: • Level 3 Certificate in Graphic Design • Level 4 Award in PHP • Level 4 Award in C# • Level 4 Award in Python • Level 4 Award in UX/UI • Web Designer/Frontend Developer (or similar job role)
Regulation information	This is a regulated qualification. The regulated number for this qualification is 603/7370/2.

Funding	This qualification may be eligible for funding. For further guidance on funding, please contact your local funding provider.

Entry guidance

This qualification is designed for learners who are working or would like to work in a web design team.

Entry is at the discretion of the centre. However, learners should be aged 16 or above to undertake this qualification.

There are no specific prior skills/knowledge a learner must have for this qualification. However, learners may find it helpful if they have already achieved a level 2 digital qualification.

Centres are responsible for ensuring that this qualification is appropriate for the age and ability of learners. They need to make sure that learners can fulfil the requirements of the learning outcomes and comply with the relevant literacy, numeracy and health and safety aspects of this qualification.

Learners registered on this qualification should not undertake another qualification at the same level with the same or a similar title, as duplication of learning may affect funding eligibility.

Achieving this qualification

To be awarded this qualification, learners are required to successfully achieve **5** mandatory units.

Please refer to the list of units below or the unit summaries in section 2 for further information.

To achieve this qualification, learners must successfully demonstrate their achievement of all learning outcomes of the units as detailed in this qualification specification. A partial certificate may be requested for learners who do not achieve their full qualification but have achieved at least one whole unit.

Units

To make cross-referencing assessment and quality assurance easier, we have used a sequential numbering system in this document for each unit.

The regulated unit number is indicated in brackets for each unit (for example, M/100/7116) within section 2.

Knowledge only units are indicated by a lightbulb. If a unit is not marked with a lightbulb, it is a skills unit or contains a mix of knowledge and skills.

Mandatory units

Unit number	Regulated unit number	Unit title	Level	GLH	Notes
Unit 01	(M/618/6924)	Understanding the web and web design	3	40	
Unit 02	(T/618/6925)	Creating a web page using HTML	3	40	
Unit 03	(A/618/6926)	Understanding and using Cascading Style Sheets (CSS)	3	50	
Unit 04	(F/618/6927)	Understanding and using JavaScript	3	40	
Unit 05	(J/618/6928)	Understanding the fundamentals of web images and Scalable Vector Graphics (SVG)	3	20	

How the qualification is assessed

Assessment is the process of measuring a learner's skill, knowledge and understanding against the standards set in a qualification.

This qualification is internally assessed and externally quality assured.

The assessment consists of 1 component:

- an internally assessed portfolio of evidence which is assessed by centre staff and externally quality assured by NCFE (IQA must still be completed by the centre as per usual)

Learners must be successful in all components to gain the NCFE Level 3 Certificate in Web Design (603/7370/2).

Internal assessment

Each learner must create a portfolio of evidence generated from appropriate assessment tasks, which demonstrates achievement of all the learning outcomes associated with each unit. On completion of each unit, learners must declare that the work produced is their own and the assessor must countersign this.

Internally assessed work should be completed by the learner in accordance with the qualification specification.

The tutor must be satisfied that the work produced is the learner's own.

A centre must create their own internal assessment tasks. The tasks should:

- be accessible and lead to objective assessment judgements
- permit and encourage authentic activities where the learner's own work can be clearly judged
- refer to course file documents on QualHub

Supervision of learners and your role as an assessor

Guidance on how to administer the internal assessment and the support you provide to learners can be found on QualHub.

Unit content and assessment guidance

This section provides details of the structure and content of this qualification.

The types of evidence listed are for guidance purposes only. Within learners' portfolios, other types of evidence are acceptable if all learning outcomes are covered and if the evidence generated can be internally and externally quality assured. For approval of methods of internal assessment other than portfolio building, please contact our quality assurance team.

The explanation of terms explains how the terms used in the unit content are applied to this qualification. This document can be found in section 3.

For further information or guidance about this qualification, please contact our customer support team.

Unit 01 Understanding the web and web design (M/618/6924)

Unit summary	The learner will understand the roles and responsibilities found within a web design team and the components and concepts involved in web design.
Guided learning hours	40
Level	3
Mandatory/optional	Mandatory

Learning outcome 1	
The learner will:	
1	Understand the roles and responsibilities within a web design team when developing a website
The learner can:	
1.1	Summarise the **roles and responsibilities involved in designing a website**
1.2	Summarise the **role and responsibilities involved in the frontend development** for a website
1.3	Summarise the **role and responsibilities involved in the backend development** for a website
1.4	Summarise **other roles and responsibilities** that contribute to the creation and maintenance of a website

Learning outcome 2	
The learner will:	
2	Understand the components of web design
The learner can:	
2.1	Identify the **differences between the web and the internet** and how they relate
2.2	Describe the **functions of the server** and potential issues that may impact server performance
2.3	Describe the **functions of the browser** and the impact it can have when viewing a website
2.4	Explain the **component parts of a URL** (Uniform Resource Locator)
2.5	Explain the **importance of using a secure web protocol** (HTTPS)

Learning outcome 3	
The learner will:	
3	Understand key concepts involved in web design
The learner can:	
3.1	Explain the **principle considerations** when designing web pages for mobile devices
3.2	Identify the purpose of web standards
3.3	Explain the purpose of progressive enhancement and how it's used
3.4	Explain the purpose of Responsive Web Design (RWD) and how it's used
3.5	Describe methods that can be used to improve website accessibility for the following types of impairment: • Vision

	• Mobility • Auditory • Cognitive • Speech
3.6	Explain the importance of site performance
3.7	Describe the functions of Accessible Rich Internet Applications (ARIA)

Key terms
Web also known as World Wide Web

Assessment guidance

AC	Assessment guidance	Suggested assessment method
1.1	**Roles and responsibilities involved in designing a website** - the learner should cover as a minimum: **User Experience (UX) designer:** – the learner should cover as a minimum: • holistic view of the design process • user needs based on observations and interviews • visual design • user interface • quality and message of the content • site performance • in line with organisation's brand and goals **User Interface (UI) designer**: – the learner should cover as a minimum: • functional organisation of the page • specific elements/components are working (eg buttons, links, menus etc) • navigation and task accomplishment is achievable for the user **Graphic (Visual) designer**: – the learner should cover as a minimum: • look and feel of the site (eg logos, graphics, type, colours, layout etc)	
1.2	**Role and responsibilities involved in the frontend development** – the learner should cover as a minimum: • handles the creation of files that make up the site which relate directly to the browser (eg client-side) • supports any aspect of the design process that appears in or relates to the browser • has a working knowledge of frontend web technologies (eg HTML, CSS, JavaScript)	
1.3	**Role and responsibilities involved in the backend development** – the learner should cover as a minimum: • focus on the server, including the applications and databases that run on it • required to know at least one, and probably more, server-side programming languages, such as PHP, Ruby, .NET (or ASP.NET), Python, or JSP • need to be familiar with configuring and maintaining databases that store all of the data for a site • can use database software such as MySQL, Oracle and SQL Server	
1.4	**Other roles and responsibilities**	

	project manager – the learner should cover as a minimum: • coordinates the designers, developers, and everyone else who is working on the project • manage timelines, development, approaches, deliverables etc • works with the product manager and other product owners to make sure that the project gets done on time and on budget **SEO (Search Engine Optimisation) specialist** – the learner should cover as a minimum: • ensures that a site can be easily found by search engines • adjusting the site structure and code in a way that increases the chances it will be highly ranked in search results • supports with improving content with HTML markup	
2.1	**differences between the web and the internet** – the learner should cover as a minimum: • the internet is a international network of connected computers • no company owns the internet • the web is one of the many ways information can be shared over the internet • the internet facilitates and the web delivers information • the internet can function without the web but the web couldn't function without the internet **relate** – the learner should cover as a minimum: • the web is many pages that can be accessed via the internet	
2.2	**functions of the server** - the learner should cover as a minimum: • to store data from devices on the network • transfers the information via HTTP protocol **potential issues** - the learner should cover as a minimum: • the server takes too long to load • hacking/cyber attacks • server can crash • high traffic issues	
2.3	**functions of the browser** - the learner should cover as a minimum: • uses information from the web and displays the content on desktops or mobile devices • transfers the information via HTTP protocol • interprets client-side languages and can operate offline	

	• allows users to interact with the data • the web browser renders the HTML code to display the text and images on the web page • allows users with various needs to interact with the browser eg facilitates the use of assistive technology **impact** - the learner should cover as a minimum: • some browsers may display content differently on a web page to others • some functions and layout of a web page are more compatible with different browsers	
2.4	**component parts of a URL** - the learner should cover as a minimum: • protocol - defines the protocol that will be used for that particular transaction. • hostname – defines where the site is hosted eg www • domain name – identifies a specific website eg ncfe.org.uk • directory path – the area of the website you want to look at • document – the file name or HTML document	
2.5	**importance of using a secure web protocol** - the learner should cover as a minimum: • encrypts data between browser and website to keep it secure • less vulnerable to attacks such as data being accessed by cyber criminals • builds trust and confidence for the user • could impact on search engine results	
3.1	**principle considerations** - the learner should cover as a minimum: • font and text is easy to read • simplified navigation and menu bar • user interactivity • adaptable images i.e. based on screen size • adaptable screen resolution	
3.5	**vision** - the learner should cover as a minimum: • screen reader • braille display • screen magnifier • text zoom function **mobility** - the learner should cover as a minimum: • modified mice and keyboards • foot pedals • voice commands • joysticks **auditory** - the learner should cover as a minimum:	

	• transcripts • captions **cognitive** - the learner should cover as a minimum: • websites are designed in a clear and simple way **speech** - the learner should cover as a minimum: • speech recognition software	

Unit 02 Creating a web page using HTML (T/618/6925)

Unit summary	The learner will be able to create a web page using HTML, use elements for marking up text, add links and images, create tables and forms and be able to add other types of embedded content
Guided learning hours	40
Level	3
Mandatory/optional	Mandatory

Learning outcome 1	
The learner will:	
1	Be able to create a web page using HTML
The learner can:	
1.1	Explain the **rules and conventions** for naming files
1.2	Describe the **impact browsers have on content**
1.3	Describe **elements and attributes required for markup**
1.4	Explain the **functions and features of the title element**
1.5	Write up text in a HTML document

Learning outcome 2	
The learner will:	
2	Be able to use elements for marking up text
The learner can:	
2.1	Apply paragraphs and headings to HTML document
2.2	Apply HTML to the following types of lists • unordered • ordered • description
2.3	Organise content into the following sections • headers and footers • sections and articles • aside • navigation • addresses
2.4	Apply text-level (inline) elements
2.5	Apply generic elements, div and span
2.6	Apply character escapes for named and numeric values

Learning outcome 3	
The learner will:	
3	Be able to add links to a web page

The learner can:	
3.1	Create an external link
3.2	Link documents to their own web page
3.3	Link to a specific point in a page
3.4	Link to an external email address
3.5	Explain the **impact of adding links to browser windows** in a web page

Learning outcome 4	
The learner will:	
4	Be able to add images to a web page
The learner can:	
4.1	Insert an image to a page using HTML
4.2	Apply alternative text to the image
4.3	Describe the **importance of image accessibility**

Learning outcome 5	
The learner will:	
5	Be able to markup tables
The learner can:	
5.1	Describe the **purpose and function of tables**
5.2	Create a table structure
5.3	Add spanning rows and columns
5.4	Apply the caption element to enable table accessibility

Learning outcome 6	
The learner will:	
6	Be able to create forms
The learner can:	
6.1	Describe the **function and purpose of a HTML form**
6.2	Create a functional form
6.3	Apply elements for adding form widgets
6.4	Use the following elements to enable form accessibility • label • field set • legend
6.5	Explain the **importance of web form design**

Learning outcome 7	
The learner will:	
7	Be able to add video and audio content
The learner can:	
7.1	Apply the iframe element
7.2	Embed video and audio to the web page

Assessment guidance

AC	Assessment guidance	Suggested assessment method
1.1	**rules and conventions** - the learner should cover as a minimum: • use the correct suffixes for files (for example, HTML files must end with .html or .htm. Web graphics must be labelled according to their file format: .gif, .png, .jpg or .svg.) • never use character spaces within filenames • it is common to use an underline character or hyphen to visually separate words within filenames, such as robbins_bio.html or robbins-bio.html. • avoid special characters (for example ?, %, #, /, :, ;, •, etc.) • limit filenames to letters, numbers, underscores, hyphens, and periods. It is also best to avoid international characters, such as the Swedish å.	
1.2	**impact browsers have on content** - the learner should cover as a minimum: • when a browser encounters more than one consecutive blank character space, it displays a single space • browsers convert carriage returns to white spaces • tabs are to character spaces, therefore have no purpose for indenting text on the web page • browsers are instructed to ignore any tag they don't understand or that was specified incorrectly • browsers do not display text between the special <!-- and --> tags used to denote a comment	
1.3	**elements and attributes required for markup** - the learner should cover as a minimum: • elements are identified by tags in the text source • a tag consists of the element name within angle brackets (< >) • the element name appears in the opening tag (also called a start tag) • the element name also appears in the closing (or end) tag preceded by a slash (/) • the tags added around content are referred to as the markup	
1.4	**functions and features of the title element** - the learner should cover as a minimum: • a title element is required for every document • the title is in a user's bookmarks or favourites list and on tabs in desktop browsers	

	• descriptive titles are a key tool for improving accessibility (for example an assistive device that reads the content of a page aloud for users with impaired sight) • the length of titles is important in order to display in the browser's title area	
3.5	**impact of adding links to browser windows** - the learner should cover as a minimum: • when people click them, they may never come back to your content • opening new browser windows could cause potential accessibility issues for some users (for example they might not be able to tell that a new window has opened)	
4.3	**importance of image accessibility** - the learner should cover as a minimum: • Some types of images, such as data charts and diagrams, require long descriptions that aren't practical as alt values. These cases require alternate accessibility strategies.	
5.1	**purpose and function of tables** - the learner should cover as a minimum: • organise schedules • product comparisons • statistics • other types of information	
6.1	**function and purpose of a HTML form** - the learner should cover as a minimum: • made up of buttons, input fields, and drop-down menus • used to collect information from the user • may also contain text and other elements	
6.5	**importance of web form design** - the learner should cover as a minimum: • a poorly designed form can impact a user's experience on your site and negatively impact business goals • poorly designed forms could mean lost customers • it is critical for the form to be fit for purpose on the desktop and small-screen devices with their special requirements • a well designed web form will have: • avoided unnecessary questions • considered the impact of label placement • chosen input types carefully • grouped related inputs • clarified primary and secondary actions	

Unit 03 Understanding and using Cascading Style Sheets (CSS) (A/618/6926)

Unit summary	The learner will understand Cascading Style Sheets (CSS). They will be able to use CSS to format text and understand colours and backgrounds. They will be able to apply box-related properties, float and position elements, use CSS layout with Flexbox and Grid, apply common CSS techniques and understand the principles of Responsive Web Design (RWD).
Guided learning hours	50
Level	3
Mandatory/optional	Mandatory

Learning outcome 1	
The learner will:	
1	Understand Cascading Style Sheets (CSS)
The learner can:	
1.1	Define the term **CSS**
1.2	Describe the **purpose and function of external style sheets**
1.3	Describe the following attachment methods for applying external style sheets: • **link element** • **@import rule**
1.4	Describe how **HTML markup creates a document structure**
1.5	Describe the **characteristics for writing style rules**
1.6	Explain the characteristics of the following selectors: • **pseudo-class** • **pseudo-element** • **attribute selectors**
1.7	Explain the **characteristics of CSS styles**
1.8	Describe the process to attach styles to a document
1.9	Describe the characteristics of each concept: • the cascade • inheritance • specificity • rule order • the box model

Learning outcome 2	
The learner will:	
2	Be able to use CSS to format text
The learner can:	
2.1	Apply basic font properties
2.2	Apply web fonts
2.3	Apply text formatting

2.4	Apply text line settings
2.5	Apply text effects
2.6	Apply the following selectors: • element • grouped • descendent • child • adjacent • general • ID • class
2.7	Calculate specificity of selectors for handling style rule conflicts
2.8	Apply list styles

Learning outcome 3	
The learner will:	
3	Understand colours and backgrounds in CSS
The learner can:	
3.1	Describe how colour is applied in CSS
3.2	Describe the process for picking and specifying colours in style sheets
3.3	Describe the function and purpose for the following background properties • background images • background repeat • background position • background position origin • background attachment • background size • shorthand background property • multiple backgrounds
3.4	Describe the functions of the following colour gradients • linear • radial • repeating gradients

Learning outcome 4	
The learner will:	
4	Be able to apply box-related properties
The learner can:	
4.1	Describe the following parts of an element box: • content area • inner edges

	• padding • border • margin • outer edge
4.2	Apply the following box dimensions: • box sizing • height and width • handling overflow
4.3	Assign display roles
4.4	Add a box drop shadow

Learning outcome 5	
The learner will:	
5	Be able to use CSS to float and position elements
The learner can:	
5.1	Float elements to the left and right
5.2	Clear floated elements
5.3	Contain floated elements
5.4	Create text-wrapped shapes
5.5	Describe the methods of positioning elements
5.6	Apply relative positioning
5.7	Apply absolute positioning and contain blocks
5.8	Apply fixed positioning

Learning outcome 6	
The learner will:	
6	Be able to use CSS layout with Flexbox
The learner can:	
6.1	Apply flex to items within a container
6.2	Apply flow direction and wrapping
6.3	Apply flex item alignment

Learning outcome 7	
The learner will:	
7	Be able to use CSS layout with Grid
The learner can:	
7.1	Apply grid to items within a container
7.2	Set up a grid template

7.3	Assign items to areas in a grid
7.4	Apply implicit grid features
7.5	Apply grid item spacing and alignment

Learning outcome 8	
The learner will:	
8	Be able to apply common CSS techniques
The learner can:	
8.1	Describe the functions of the following when styling forms: • text inputs • the textarea element • button inputs • radio and checkbox buttons • drop-down and select menus • fieldsets and legends
8.2	Apply the following table formatting techniques: • cell padding • cell spacing • separated borders • collapsed borders
8.3	Describe the benefits of using the following methods to remove user-agent style sheets in browsers: • CSS reset • normalize.css
8.4	Apply image replacement techniques
8.5	Apply CSS sprites to reduce the number of image requests

Learning outcome 9	
The learner will:	
9	Understand Responsive Web Design (RWD)
The learner can:	
9.1	Explain the importance and purpose of RWD
9.2	Describe the characteristics of a fluid layout
9.3	Explain the functions and purpose of media queries
9.4	Explain the importance of breakpoints when using media queries
9.5	Describe a responsive web design strategy for navigation
9.6	Describe testing options for the following: • real devices • emulators • third-party services

Assessment guidance

AC	Assessment guidance	Suggested assessment method
1.1	**CSS** - the learner should cover as a minimum: • the W3C standard for defining the presentation of documents written in HTML, and any XML language • CSS is a separate language with its own syntax	
1.2	**purpose and function of external style sheets** - the learner should cover as a minimum: • a plain-text document with at least one style sheet rule • it may not include any HTML tags • it may contain comments, but they must use the CSS comment syntax • the style sheet should be named with the .css suffix • there are two ways to apply an external style sheet - the link element and an @import rule	
1.3	**link element** - the learner should cover as a minimum: • rel="stylesheet" defines the linked document's relation to the current document • the value of the rel attribute is when it is linked to a style sheet • href="url" provides the location of the .css file • @import rule - the learner should cover as a minimum: • another type of rule you can add to a style sheet • either in an external .css style sheet document, or in the style element	
1.4	**HTML markup creates a document structure** - the learner should cover as a minimum: • the markup creates the structure of the document, sometimes called the structural layer, upon which the presentation layer can be applied. • HTML is used to determine the structure and CSS is used to decorate the structure.	
1.5	**characteristics for writing style rules** - the learner should cover as a minimum: • a style sheet is made up of one or more style instructions (called style rules) that describe how an element or group of elements should be displayed • each rule selects an element and declares how it should look • in CSS terminology, the two main sections of a rule are the selector that identifies the element or elements to be affected, and the declaration that provides the rendering instructions.	

	• the declaration, in turn, is made up of a property (such as colour) and its value (green), separated by a colon and a space • one or more declarations are placed inside curly brackets, as shown below	
1.6	**pseudo-class** - the learner should cover as a minimum: • pseudo-class selectors are indicated by the colon (:) character. • they typically go immediately after an element name—for example, li:first-child • the most basic pseudo-class selectors target links (a elements) based on whether they have been clicked • link pseudo-classes are a type of dynamic pseudo-class because they are applied as the result of the user interacting with the page rather than something in the markup **pseudo-element** - the learner should cover as a minimum: • pseudo-elements are indicated by a double colon (::) symbol to differentiate them from pseudo-classes • ::first-line - this selector applies a style rule to the first line of the specified element • ::first-letter - this applies a style rule to the first letter of the specified element **attribute selectors** - the learner should cover as a minimum: • attribute selectors target elements based on attribute names or values, which provides a lot of flexibility for selecting elements without needing to add a lot of class or id markup • the simple attribute selector - element[attribute] targets elements with a particular attribute regardless of its value • the exact attribute value selector - element[attribute="exact value"] selects elements with a specific value for the attribute, this selector matches images with exactly the title value “first grade” • the partial attribute value selector - element[attribute~="value"] (indicated with a tilde, ~) allows the user to specify one part of an attribute value • the hyphen-separated attribute value selector - element[attribute|="value"] (indicated with a bar, |) targets hyphen-separated values. This selector matches any link that points to a document written in a variation on the English language (en), whether the attribute value is en-us (American	

	English), en-in (Indian English), en-au-tas (Australian English) etc • the beginning substring attribute value selector - element[attribute^="first part of the value"] (indicated with a carat, ^) matches elements whose specified attribute values start in the string of characters in the selector • the ending substring attribute value selector - element[attribute$="last part of the value"] (indicated with a dollar sign, $) matches elements whose specified attribute values end in the string of characters in the selector • the arbitrary substring attribute value selector - element[attribute*="any part of the value"] (indicated with an asterisk, *) looks for the provided text string in any part of the attribute value specified.	
1.7	**characteristics of CSS styles** - the learner should cover as a minimum: • external style sheet, which is a separate, text-only document that contains a number of style rules. It must be named with the .css suffix • embedded style sheets, which are placed in a document via the style element, and its rules apply only to that document • inline styles, which allows the user to apply properties and values to a single element by using the style attribute in the element itself	

Unit 04 Understanding and using JavaScript (F/618/6927)

Unit summary	The learner will understand JavaScript. They will be able to use JavaScript and the Document Object Model (DOM) to access and change elements, attributes and contents, use polyfills to make browser versions work consistently, use JavaScript libraries and understand the function and purpose of AJAX (Asynchronous JavaScript).
Guided learning hours	40
Level	3
Mandatory/optional	Mandatory

Learning outcome 1	
The learner will:	
1	Understand the key concepts of JavaScript
The learner can:	
1.1	Describe the purpose and function of JavaScript
1.2	Describe the features of JavaScript variables, arrays and objects
1.3	Explain the function of comparison operators
1.4	Describe the purpose of using JavaScript if/else statements
1.5	Explain the benefits of using loops for iteration
1.6	Describe the characteristics of native and custom functions
1.7	Describe the importance of applying ''pass arguments'' to native and custom functions
1.8	Describe the benefit of using the return keyword inside a function
1.9	Explain the characteristics of local and global variables
1.10	Describe the features of the following browser properties that JavaScript can manipulate: • event • history • location • status • alert () • close () • confirm () • status ()

Learning outcome 2	
The learner will:	
2	Be able to use JavaScript and Document Object Model (DOM)
The learner can:	
2.1	Describe the purpose and function of the DOM
2.2	Apply the DOM to access and target elements and attributes
2.3	Apply the following DOM methods to access nodes in the document • by element name • by id attribute value

	• by class attribute value • by selector
2.4	Apply the following event handlers to create specific events: • onload • onmouseover • onclick • onsubmit
2.5	Explain the benefits of applying polyfills to different browser versions
2.6	Apply JavaScript libraries to access elements
2.7	Describe the function and purpose of AJAX (Asynchronous JavaScript)

Assessment guidance

AC	Assessment guidance	Suggested assessment method
XX		
XX		
XX		
XX		
XX		

Unit 05 Understanding the fundamentals of web images and Scalable Vector Graphics (SVG) (J/618/6928)

Unit summary	The learner will understand the fundamentals of web images and the features and applications of Scalable Vector Graphics (SVG).
Guided learning hours	20
Level	3
Mandatory/optional	Mandatory

Learning outcome 1	
The learner will:	
1	Understand the fundamentals of web images
The learner can:	
1.1	Describe the options available to source images
1.2	Describe the characteristics of each file format available for web graphics: • Joint Photographic Experts Group (JPEG) • Portable Network Graphics (PNG) • Graphic Interchange Format (GIF) • WebP
1.3	Explain the key difference between a raster (bitmapped) image and a vector graphic image
1.4	Explain the importance of measuring web images in pixels instead of pixels per inch (ppi) or dots per inch (dpi)
1.5	Explain the impact high density (2x and above) screen resolution has on bitmapped images
1.6	Identify the key priorities when using images on web sites
1.7	Explain the benefits of applying the following best practices for web image production: • keeping the file sizes of images as small as possible • minimising the number of HTTP requests to the server • not downloading more image data than is needed for devices with smaller screens • delivering high-quality images to high-density displays
1.8	Explain the purpose and function of a favicon
1.9	Describe the favicon process for desktop browsers

Learning outcome 2	
The learner will:	
2	Understand Scalable Vector Graphics (SVG)
The learner can:	
2.1	Describe the characteristics of an SVG
2.2	Explain the benefits of using SVG for icons, logos and charts
2.3	Describe the function of XML (eXtensible Markup Language) and how it relates to SVG
2.4	Explain the process of using SVG to clip and mask an image
2.5	Explain the process for applying the following filter effects: • Gaussian blurs • colour shifting

	• drop shadows
2.6	Describe the characteristics of each style added to SVG: • presentation attributes • inline styles • internal style sheet • external style sheet
2.7	Explain the process of adding interactivity to the elements in an SVG
2.8	Describe the advantages and disadvantages of using vector drawing tools to create SVGs
2.9	Explain the process to scale SVGs by applying the following: • viewport • viewbox • preserveAspectRatio attribute • img element

Assessment guidance

AC	Assessment guidance	Suggested assessment method
XX		
XX		
XX		
XX		
XX		

Assessment strategy

Knowledge learning outcomes:

- assessors will need to be both occupationally knowledgeable and qualified to make assessment decisions
- internal quality assurers will need to be both occupationally knowledgeable and qualified to make quality assurance decisions

Competence/skills learning outcomes:

- assessors will need to be both occupationally competent and qualified to make assessment decisions
- internal quality assurers will need to be both occupationally knowledgeable and qualified to make quality assurance decisions

Section 3

Explanation of terms

Explanation of terms

This table explains how the terms used at level 3 in the unit content are applied to this qualification (not all verbs are used in this qualification).

Apply	Explain how existing knowledge can be linked to new or different situations in practice.
Analyse	Break the subject down into separate parts and examine each part. Show how the main ideas are related and why they are important. Reference to current research or theory may support the analysis.
Clarify	Explain the information in a clear, concise way.
Classify	Organise according to specific criteria.
Collate	Collect and present information arranged in sequential or logical order.
Compare	Examine the subjects in detail and consider the similarities and differences.
Critically compare	This is a development of compare where the learner considers the positive aspects and limitations of the subject.
Consider	Think carefully and write about a problem, action or decision.
Demonstrate	Show an understanding by describing, explaining or illustrating using examples.
Describe	Write about the subject giving detailed information in a logical way.
Develop (a plan/idea which…)	Expand a plan or idea by adding more detail and/or depth of information.
Diagnose	Identify the cause based on valid evidence.
Differentiate	Identify the differences between 2 or more things.
Discuss	Write a detailed account giving a range of views or opinions.
Distinguish	Explain the difference between two or more items, resources, pieces of information.
Draw conclusions (which…)	Make a final decision or judgement based on reasons.
Estimate	Form an approximate opinion or judgment using previous knowledge or considering other information.
Evaluate	Examine strengths and weaknesses, arguments for and against and/or similarities and differences. Judge the evidence from the different perspectives and make a valid conclusion or reasoned judgement. Reference to current research or theory may support the evaluation.
Explain	Provide detailed information about the subject with reasons showing how or why. Responses could include examples to support these reasons.

Extrapolate	Use existing knowledge to predict possible outcomes that might be outside the norm.
Identify	Recognise and name the main points accurately. (Some description may also be necessary to gain higher marks when using compensatory marking).
Implement	Explain how to put an idea or plan into action.
Interpret	Explain the meaning of something.
Judge	Form an opinion or make a decision.
Justify	Give a satisfactory explanation for actions or decisions.
Perform	Carry out a task or process to meet the requirements of the question.
Plan	Think about and organise information in a logical way using an appropriate format.
Provide	Identify and give relevant and detailed information in relation to the subject.
Reflect	Learners should consider their actions, experiences or learning and the implications of this for their practice and/or professional development.
Review and revise	Look back over the subject and make corrections or changes.
Select	Make an informed choice for a specific purpose.
Show	Supply evidence to demonstrate accurate knowledge and understanding.
State	Give the main points clearly in sentences or paragraphs.
Summarise	Give the main ideas or facts in a concise way.

Section 4

Additional information

Additional information

Resource requirements

To assist in the delivery of this qualification, centres/learners should have access to the following mandatory resource(s)

- a digital device – either desktop, laptop or tablet
- web browser software/applications
- Internet connectivity
- appropriate web design software

Support for learners

Learner's evidence tracking log (LETL)

The LETL covers the mandatory units in this qualification and it can help learners keep track of their work. This document can be downloaded free of charge from the qualifications page on QualHub. You do not have to use the LETL, you can devise your own evidence tracking document instead.

Support for centres

Qualification factsheet

This document outlines the key information of this qualification for the centre, learner and employer.

Learning resources

We offer a wide range of learning resources and materials to support the delivery of our qualifications. Please check the qualifications page on QualHub for more information and to see what is available for this qualification.

Contact us

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Version 1.0 August 2021
Information in this qualification specification is correct at the time of publishing but may be subject to change.

To continue to improve our levels of customer service, telephone calls may be recorded for training and quality purposes.