

Level 3 Award in the Principles of Coding (9628-11)

Version 2.0 (April 2018)

Qualification Handbook

Qualification at a glance

Industry area	IT Professional
City & Guilds number	9628
Age group	16+
Entry requirements	Centres must ensure that any pre-requisites stated in the What is this qualification about? section are met.
Assessment	Multiple-choice online exam
Qualification grade scale	Pass
Approvals	Approval application required
Registration and certification	Registration and certification of this qualification is through the Walled Garden, and is subject to end dates.

Title and level	GLH	TQT	City & Guilds qualification number	Ofqual accreditation number
Level 3 Award in the Principles of Coding	36	85	9628-11	603/1606/8

Version and date	Change detail	Section
2.0 April 2018	Test specification detail updated	Assessment

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1 Introduction

This document tells you what you need to do to deliver the qualification:

Area	Digital Apprenticeships
Who is the qualification for?	This qualification is designed to support learners to develop a full range of underpinning knowledge that can be used in a variety of businesses and industries that demonstrate confidence and transferability in a Digital Technology Environment.
What does the qualification cover?	<p>A successful Digital Marketer will be expected to understand, use and review basic code that enables the Web to work. This qualification empowers the successful learner with an appreciation of the technologies that enable websites and online platforms to operate and an understanding of the means by which websites are created, published and hosted will enable them to meet the challenges of modern, dynamic and flexible digital marketing and to contribute more effectively to the digital presence of their business</p> <p>Some of the topics covered include:</p> <ul style="list-style-type: none">• How the Web works from a digital and social media perspective• The basic principles of good coding, including the key features and uses of the main coding languages• The compatibility of different code on different platforms.
What opportunities for progression are there?	<p>This qualification is part of the Digital Industries Apprenticeship programme and are not offered as standalone products.</p> <p>On achieving this qualification the learner will have completed a section of the knowledge element as part of their apprenticeship journey.</p>
Who did we develop the qualification with?	It was developed in collaboration with employers, sector experts and training providers using the Standard as the baseline. The Standards have been created by The Tech Partnership and their Employer Groups for the specific areas. The qualification embodies the required learning for an apprentice to have the opportunity to successfully gain the relevant knowledge for their chosen career path in a Digital Technology environment.
Is it part of an apprenticeship framework or initiative?	Yes – Digital Marketer (9648-04)

Structure

Total Qualification Time

Total Qualification Time (TQT) is the number of notional hours which represents an estimate of the total amount of time that could reasonably be expected for a learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of a qualification.

TQT is comprised of the following two elements:

- The number of hours which an awarding organisation has assigned to a qualification for Guided Learning, and
- an estimate of the number of hours a Learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by - but, unlike Guided Learning, not under the Immediate Guidance or Supervision of - a lecturer, supervisor, tutor or other, appropriate provider of education or training.

Title and level	GLH	TQT
Level 3 Award in the Principles of Coding	36	85

2 Centre requirements

Approval

If your Centre is approved to offer the existing Digital Apprenticeships at Level 3 or above then you can apply for the new 9648 Digital Apprenticeships approval using the fast track approval form, available from the City & Guilds website.

Centres should use the fast track form if:

- there have been no changes to the way the qualifications are delivered, and
- they meet all of the approval criteria in the fast track form guidance notes.

Fast track approval is available for 12 months from the launch of the qualification. After 12 months, the Centre will have to go through the standard Qualification Approval Process. The centre is responsible for checking that fast track approval is still current at the time of application.

To offer these qualifications, new centres will need to gain both centre and qualification approval. Please refer to the Centre Manual - Supporting Customer Excellence for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualifications before designing a course programme.

Resource requirements

Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the area[s] for which they are delivering training and/or have experience of providing training. This knowledge must be to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but cannot internally verify their own assessments.

Learner entry requirements

City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that candidates have the potential and opportunity to gain the qualifications successfully.

Age restrictions

City & Guilds cannot accept any registrations for learners under 16 as these qualifications are not approved for learners under 16.

3 Delivering the qualification

Initial assessment and induction

An initial assessment of each candidate should be made before the start of their programme to identify:

- if the candidate has any specific training needs
- support and guidance they may need when working towards their qualifications
- any units they have already completed, or credit they have accumulated which is relevant to the qualifications
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the candidate fully understands the requirements of the qualification[s], their responsibilities as a candidate, and the responsibilities of the centre. This information can be recorded on a learning contract.

Support materials

The following resources are available for these qualifications:

Recording documents

Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems, including our own, Learning Assistant, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: www.cityandguilds.com/eportfolios.

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate. Recording forms are available on the City & Guilds website.

Although new centres are expected to use these forms, centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by candidates and assessors at the centre. Amendable (MS Word) versions of the forms are available on the City & Guilds website.

4 Assessment

Summary of assessment methods

Candidates must:

- successfully complete one evolve test for the unit

Available assessments/assignments

City & Guilds has written the following assessments to use with this qualification:

- evolve tests

Assessment Types

Unit	Title	Assessment method	Where to obtain assessment materials
311	Principles of Coding	Evolve Test	Please see www.cityandguilds.com

Assessment strategy

Tables and content pertaining to the assessment strategy

Test Specifications

The way the knowledge is covered by each test is laid out in the table below:

Assessment type: Multiple-choice online test

Assessment conditions: Invigilated examination conditions

Number of questions: 15

Duration: 30 minutes

Pass mark: 10/15 (66%)

Grading: Pass/Fail

Test: 311

The Principles of Coding

Learning Outcome	Topic	Number of questions
Understand the principles of coding	The learner will be able to understand the application of logic in coding	2
	The learner will be able to recognise and describe the use of common languages	4
	The learner will understand the importance of considering	3

compatibility issues with code on different platforms

Understand the components that make the Web work	The learner will be able to describe hardware and software components of the web	2
	Protocols	1
	Web technologies	1
	Search engines	2
	Total questions	15

Recognition of prior learning (RPL)

Recognition of prior learning means using a person's previous experience, or qualifications which have already been achieved, to contribute to a new qualification.

For this qualification, RPL is not allowed.

5 Administration

Quality assurance

Internal quality assurance

Registered centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre registration by City & Guilds and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance.

Standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external moderation.

In order to carry out the quality assurance role, Internal Quality Assurers must have appropriate teaching and vocational knowledge and expertise.

Access arrangements and special consideration

We have taken note of the provisions of equalities legislation in developing and administering this specification.

We follow the guidelines in the Joint Council for Qualifications (JCQ) document: Regulations and Guidance Relating to Candidates who are Eligible for Adjustments in Examination GCSE, GCE, GNVQ, AEA, Entry Level, Basic Skills & Key Skills Access Arrangements and Special Consideration. This is published on the JCQ website: http://www.jcq.org.uk/access_arrangements/

Access arrangements

We can make arrangements so that learners with disabilities, special educational needs and temporary injuries can access the assessment. These arrangements must be made before the examination. For example, we can produce a Braille paper for a learner with visual impairment.

Special consideration

We can give special consideration to learners who have had a temporary illness, injury or indisposition at the time of the examination. Where we do this, it is given after the examination.

Applications for either access arrangements or special consideration should be submitted to City & Guilds by the Examinations Officer at the centre.

Language of examinations

We will provide this specification in English only.

Other issues

European Dimension

City & Guilds has taken account of the 1988 Resolution of the Council of the European Community in preparing this specification and associated specimen units.

Environmental Education

City & Guilds has taken account of the 1988 Resolution of the Council of the European Community and the Report Environmental Responsibility: An Agenda for Further and Higher Education 1993 in preparing this specification and associated specimen units.

Avoidance of bias

City & Guilds has taken great care in the preparation of this specification and specimen units to avoid bias of any kind.

6 Units

Availability of units

Some of the units can be found in a separate document.

Structure of the units

These units each have the following:

- City & Guilds reference number
- Title
- Level
- Guided learning hours (GLH)
- Learning outcomes, which are comprised of a number of assessment criteria

Centres must deliver the full breadth of the range. Specialist equipment or commodities may not be available to all centres, so centres should ensure that their delivery covers their use. This may be covered by a practical demonstration (e.g. video). For the practical assessments for this qualification, centres should ensure that there are sufficient resources to complete the task but are not required to use all the equipment or commodities in the range.

Unit 311 The Principles of Coding

Unit level:	Level 3
GLH	36

What is this unit about?

The aim of this unit is to equip learners with an appreciation of the basic principles of coding and an understanding of the components and technologies that enable the Web to work.

The primary role of a digital marketer is to define, design, create and implement digital campaigns across a variety of online and social media platforms to drive customer acquisition, engagement and retention. It is essential that digital marketers have an appreciation of the technologies that enable websites and online platforms to operate.

As online specialists, digital marketers can expect to be called upon to help solve problems and tackle challenges outside of the day-to-day running of campaigns. Consequently, an understanding of the means by which websites are created, published and hosted will enable them to meet these challenges and contribute more effectively to the digital presence of their business.

Learners should consider the following questions as a starting point to this unit:

- How does the Web actually work?
 - How can we ensure websites work correctly with as many browsers and devices as possible?
 - Which languages are used to build and operate websites?
 - How is code created in a logical and controlled way so that it works correctly on devices?
-

Learning outcomes

In this unit, learners will be able to

- 1 Understand the principles of coding
- 2 Understand the components that make the Web work

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome

1 Understand the principles of coding

Topics

- 1.1 Logic
- 1.2 Coding languages
- 1.3 Compatibility of code

In this learning outcome, the learner will gain an appreciation of logic and recognise that code is created in a controlled way for the process /computer to be able to read and action it correctly.

Topic 1.1

The learner will be able to understand the application of logic in coding

- Algorithms (pseudocode and flow charts)
- Flow control
 - o Sequence
 - o Selection
 - o Iteration
- The Software Development Life Cycle steps
 - o Requirement gathering and analysis
 - o Design (Agile)
 - o Implementation / coding
 - o Testing
 - o Deployment
 - o Maintenance

Topic 1.2

The learner will be able to recognise and describe the use of common languages

- HTML
- CSS
- JavaScript
- PHP

Topic 1.3

The learner will understand the importance of considering compatibility issues with code on different platforms

- Governance (World Wide Web Consortium (W3C))
- Cross browser compatibility
- Websites, mobile sites and Apps
- Mobile friendly (screen size issues, responsive design, bootstrap, layout and navigation, accessibility)

Learning outcome

2 Understand the components that make the Web work

Topics

- 2.1 Hardware and software components
- 2.2 Protocols
- 2.3 Web technologies
- 2.4 Search engines

In this learning outcome, the learner will explore a range of components and technologies that make the Web work. They will recognise the elements required to implement a website and know how search engines work.

Topic 2.1

The learner will be able to describe hardware and software components of the web

- Hardware
 - Webserver
 - Client
 - Other (router, mail server)
- Software
 - Content Management Systems
 - Web server software
 - Browsers
 - Web authoring software
 - Databases

Topic 2.2

The learner will be able to describe the purpose of the following protocols

- HTTP
- HTTPS
- FTP
- SMTP
- TCP/IP

Topic 2.3

The learner will be able to describe technologies required for the Web

- Domains and webhosting services
- DNS
- IP addresses
- Security in the technologies used

Topic 2.4

The learner will be able to explain the fundamentals of how search engines operate

- Crawling and indexing
- Relevance and popularity
- Meta information
- Artificial influencing

Guidance for delivery

Actual development of code is not required for achievement of this unit, however it may enhance and reinforce understanding.

Learners are only expected to recognise languages that are explicitly stated in the unit. Other languages that may be required by their organisation or employer can be included but will not be assessed.

This unit can be taught either within or outside of the workplace as appropriate, providing the learner with paper based or hands on practical exercises and case studies representative of the Digital Marketer competencies in operation.

Learners should be encouraged to explore and use as wide a range of digital tools and techniques as possible such as CMS and on-page optimisation.

Suggested learning resources

Websites

WordPress <https://wordpress.com/>

Additional resources

Below is an indicative list. Other equipment may be required depending on delivery

- Coding editor-Notepad or Notepad++-Browser (e.g. Chrome)-Interactive code tool (e.g. Code Academy)
- Webhosting environment (for demonstration)-Localhost (e.g. XAMPP)-Live webspace and domain (e.g. Godaddy, 1and1) -Content Management System (e.g. WordPress)

Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the Centres and Training Providers homepage on www.cityandguilds.com.

Centre Manual - Supporting Customer Excellence contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues.

Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

Our Quality Assurance Requirements encompasses all of the relevant requirements of key regulatory documents such as:

- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Events:** dates and information on the latest Centre events
- **Online assessment:** how to register for e-assessments.

Centre Guide – Delivering International Qualifications contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification.

Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates

- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

Appendix 2 Useful contacts

UK learners

General qualification information

E: learnersupport@cityandguilds.com

International learners

General qualification information

E: intcg@cityandguilds.com

Centres

Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results

E: centresupport@cityandguilds.com

Single subject qualifications

Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change

E: singlesubjects@cityandguilds.com

International awards

Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports

E: intops@cityandguilds.com

Walled Garden

Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems

E: walledgarden@cityandguilds.com

Employer

Employer solutions, Mapping, Accreditation, Development Skills, Consultancy

E: business@cityandguilds.com

Publications

Logbooks, Centre documents, Forms, Free literature

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