NCC education®

Awarding
Great British
Qualifications

APPLIED SKILLS CERTIFICATE IN COMPUTING

NCC Education
Qualification Unit Specification
2019/20

Modification History

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CONTENTS

1. About NCC Education

NCC Education is a UK awarding body, active in the UK and internationally. Originally part of the UK National Computing Centre, NCC Education started offering IT qualifications in 1976 and from 1997 developed its Higher Education portfolio to include Business qualifications, IT qualifications for school children and a range of Foundation qualifications.

With Centres in over forty countries, four international offices and academic managers worldwide, NCC Education strives to employ the latest technologies for learning, assessment and support. NCC Education is regulated and quality assured by Ofqual (the Office of Qualifications and Examinations Regulation, see www.ofqual.gov.uk) in England and Northern Ireland.

1.1 Why choose this qualification?

NCC Education's Applied Skills Certificate in Computing is:

- **Quality assured** and well established in the UK and worldwide
- **Recognised and valued** by employers and universities worldwide
- The NCC Education Applied Skills Certificate in Computing is an applied skills qualification which allows candidates to demonstrate their English language ability as well as the essential concepts of computing.

  In addition, successful candidates will fulfil the main entry requirements for NCC Education's Level 4 Diploma in Computing. The successful completion of the Level 4 Units within the Applied Skills Certificate in Computing will allow the student to be exempt from those units if they progress to the L4 Diploma in Computing.

  The Applied Skills Certificate in Computing syllabus and assessment is suitable for students aged 16-19 as well as adult learners.

2. Structure of the ASCC Qualification

Qualification Title, Credits, Units and Level

NCC Education Applied Certificate in Computing is 65 credits.
Total Qualification Time: 650 hours.
Guided Learning Hours: 425 hours. (Approx.)
To achieve the Certificate candidate must gain 65 credits

Unit Title	Level	Credits
English for Academic Purposes	3	10
Introduction to Programming	3	10
Computer Networks	4	15
Computer Systems	4	15
Designing and Developing a Website	4	15

This programme is awarded by NCC Education.

Please see Section 5 below for Syllabuses, which include the Guided Learning Hours and Total Qualification Time for each Unit of the Applied Skills Certificate in Computing

3. Assessment for the qualification

3.1 Assessment objectives

All assessment for the qualification is intended to allow candidates to demonstrate they have met the relevant Learning Outcomes. Moreover, NCC Education's assessment is appropriate to the assessment criteria as stated in this specification and is regularly reviewed to ensure it remains consistent with the specification.

3.2 Overview of Qualification Unit Assessment

Unit Title	Level	Global Assignment
English for Academic Purposes	3	100%
Introduction to Programming	3	100%
Computer Networks	4	100%
Computer Systems	4	100%
Designing and Developing a Website	4	100%

An assignment requires candidates to produce a written response to a set of one or more tasks, meeting a deadline imposed by the Centre.

The overall Unit mark is computed from the weighted mean of its components. The pass mark for a Unit is 40%.

NCC Education Centres can provide candidates with a limited number of past assignment papers.

Past assignment papers may be made available only following results release for the corresponding assessment cycle. Results release dates and past assignment release dates can be found in the Activity Schedules area of *Connect*, NCC Education's student registration system.

3.3 Accessibility of Assessment

We review our guidelines on assessment practices to ensure compliance with equality law and to confirm assessment for our Units is fit for purpose.

3.3.1 Reasonable adjustments and special consideration

NCC Education is committed to providing reasonable adjustments and special consideration so as to ensure disabled candidates, or those facing exceptional circumstances, are not disadvantaged in demonstrating their knowledge, skills and understanding.

Further information on NCC Education's arrangements for giving reasonable adjustments and special consideration can be found in the NCC Education *Reasonable Adjustments and Special Considerations Policy*.

3.3.2 Supervision and Authentication of Assessment

NCC Education Centres are required to organise all assessment activity for this specification according to NCC Education's Policies and Advice.

Candidates' identity and the authenticity of their work is verified and NCC Education moderates all assessment to ensure that the marking carried out is fair, and that the grading reflects the standard achieved by candidates as relevant to the specification Learning Outcomes and Assessment Criteria. Detailed guidance on this process and how candidate work must be submitted to NCC Education is given in NCC Education's *Examination Guidelines* and *Moderation Manual*. The Moderation Manual also includes full reminder checklists for Centre administrators.

4. Administration

4.1 Assessment Cycles

Four assessment cycles are offered throughout the year, in Spring, Summer, Autumn and Winter. Assignment submission deadlines are published in the NCC Education *Activity Schedule*, which is provided to Centres by Customer Services. It is also available on *Connect,* NCC Education's student registration system.

The *Activity Schedule* also gives the key dates for registering candidates for assessment cycles, the dates when Centres can expect the assessment documentation and, ultimately, the assessment results from NCC Education.

4.2 Language of Assessment

All assessment is conducted in English.

4.3 Candidates

NCC Education's qualifications are available to those Centre candidates who satisfy the entry requirements as stated in this specification.

4.4 Qualification and Unit Entry Requirements

Entry Requirements
For entry onto the NCC Education ASCC qualification, students must: • have demonstrably previously studied in English at secondary school level or have a valid score of 5.5 or above in the International English Language Testing System (IELTS) Examination (or equivalent). The Applied Skills Certificate in Computing syllabus and assessment is suitable for students aged 16-19 as well as adult learners.

4.5 Candidate Entry

Candidates are registered for assessment via NCC Education's *Connect* system and according to the deadlines for registration provided in the *Activity Schedule*.

Further details can be found in NCC Education's *Operations Manual*.

4.6 Eligibility Period

The maximum period of time that NCC Education allows for the completion of your programme is three years. Please contact your Accredited Partner Centre if you have any queries relating to this.

4.7 Resits

If a candidate fails an assessment, they will be provided with opportunities to resit during the eligibility period.

Candidates may only seek reassessment in a previously failed Unit.

5. Syllabus

5.1 English for Academic Purposes

Title	English for Academic Purposes
Unit reference number	Y/615/0158
Credits	10
Level	2

Guided Learning Hours	60 hours	**Total Qualification Time**	100 hours

Learning Outcomes; The Learner will:	**Assessment Criteria;** The Learner can:
1. Be able to utilise different 'pre', 'while' and post reading strategies to understand academic texts	1.1 Predict the content of various academic texts prior to reading them fully 1.2 Identify the overall function of an academic text 1.3 Identify the specific function of sentences, paragraphs and sections in academic texts 1.4 Demonstrate comprehension of a range of academic texts
2. Be able to demonstrate an appropriate academic vocabulary	2.1 Identify subject specific vocabulary in a range of academic texts 2.2 Demonstrate active use of a range of subject specific vocabulary 2.3 Use subject specific vocabulary accurately
3. Be able to structure sentences, paragraphs and full texts to suit academic requirements	3.1 Demonstrate an understanding of what is required in a range of academic writing tasks at this level 3.2 Demonstrate the ability to use the structure and linguistic conventions of well written academic sentences 3.3 Demonstrate the ability to use the structure and linguistic conventions of well written academic paragraphs 3.4 Demonstrate the ability to link sentences, paragraphs and sections together to produce overall cohesion in academic writing 3.5 Follow a step by step process to produce a final draft piece of academic writing
4. Be able to utilise 'pre', 'while' and post listening strategies to understand different speakers and academic topic information	4.1 Demonstrate the ability to recognise linguistic signposts and reference markers when listening to different speakers and to different delivery styles 4.2 Demonstrate the ability to utilise notes made whilst listening to a range of different speakers 4.3 Identify key information when listening to a range of speakers and delivery styles

Syllabus Coverage	
Topic	**Course coverage**
Entertainment	Students focus on the initial processes and strategies involved when approaching academic writing, reading and listening tasks: • Examining structures of academic written texts • Considering simple, compound and complex sentences • Considering the basic elements of a paragraph • Using the passive voice in academic writing • Considering pre-listening strategies • Listening for gist and for specific information • Understanding academic word lists • Understanding the process of reading • Using prediction strategies as a pre-reading technique
The Environment	Students focus on detailed processes and strategies for beginning to tackle academic writing, reading and listening tasks: • Using word transformations in academic writing • Using signposting in academic writing • Practising cohesion within paragraphs • Considering the use of punctuation in academic writing • Recognising signposts in a lecture • Examining solutions to spelling difficulties • Examining strategies for exploiting handouts in a lecture • Exploiting the use of visual aids in lectures • Considering the use of dictionaries • Understanding how affixes and roots show word meanings • Practising skimming skills to extract the main idea from a text • Practising scanning skills to search for specific information in a text
Travel and Transport	Students focus on some of the methods involved in exploiting academic writing, reading and listening materials: • Examining paraphrasing and summarising other writers' work • Understanding the issue of plagiarism and how to reference a source • Considering thesis statements • Considering how to respond to questions and instructions in academic writing • Understanding the paralinguistic features of a lecture • Examining the use of inference in lectures • Understanding attitude and opinion in lectures • Understanding how to deal with less-frequent vocabulary • Understanding how to use the contents and index pages of a text • Making inferences from written work

Achievements	Students focus on polishing their skills in academic writing, reading and listening: • Organising details and examples in a written text • Providing feedback on a piece of writing • Considering paragraph divisions within a text • Examining how referencing is used by lecturers • Considering the structure of academic lectures • Working out the meaning of unknown vocabulary • Practising intensive reading • Considering the use of linking words in a text • Practising note-taking techniques
Technology	Students focus on techniques for enhancing their skills in academic writing, reading and listening: • Examining techniques for adding and hiding opinion in writing • Considering the importance of proof reading • Correcting written work based on criteria • Developing a system of abbreviations for note-taking • Discovering how best to record new vocabulary • Finding further reading material on a subject • Examining connotations and opinions in writing

Assessment Type
Global Assignment (100%)
See also Section 3 above

5.2 Introduction to Programming

Title:	Introduction to Programming

Credits	10	**Level**	3

Guided Learning Hours	50 hours	**Total Qualification Time**	100 hours

Learning Outcomes; The Learner will:	**Assessment Criteria;** The Learner can:
1. Create project documentation	1.1 Understand why the design, implementation and testing of a program should be supported by appropriate documentation 1.2 Create and complete a Project Control Object Definition Sheet
2. Implement a program that uses data capture and validation	2.1 Write a working program which accepts and stores user input 2.2 Write a working program which validates user input and only accepts expected values
3. Implement a program that sues sequential programming with different data types	3.1 Write a working program that uses sequential programming 3.2 Write a working program which makes use of at least two different data types
4. Implement a program that uses iteration and selection constructs	4.1 Write a working program that uses a for loop construct. 4.2 Write a working program that uses an if – else construct 4.3 Identify and document appropriate testing of loops and selection statements
5. Implement a program that uses file i/o.	5.1 Write code that demonstrates how to output data to an external file. 5.2 Write code that demonstrates how to read in and store data from an external file. 5.3 Identify and document appropriate testing of file input/ output
6. Implement a program that uses arrays	6.1 Write code that demonstrates how to declare an array 6.2 Write code that demonstrates how to manipulate an array 6.3 Write code that demonstrates how to sort an array 6.4 Identify and document appropriate testing of arrays

Syllabus Coverage	
Topic	**Course coverage**
Introduction to the IDE, VB Properties and creating a GUI	• Introduction to Visual Studio Community 2015 IDE • Introduction to GUI objects and properties • Introduction to creating a GUI ***Learning Outcome: 2***
Introduction to data types and sequential programming	• Introduction to programming • Introduction to objects • Introduction to variables • Assignment statements • Introduction to data types • Arithmetic operations ***Learning Outcome: 3***
Introduction to the programming construct of iteration and fixed loops	• Introduction to iteration • Flow of execution • For loop structure • Variables and loops • Nested loops ***Learning Outcome: 4***
Introduction to the programming construct of selection	• If statement structure • Comparison operators • If-Else structure • If – Else – If structure • Compound conditionals • Switch statements ***Learning Outcomes: 2, 4***
Introduction to conditional loops and data validation	• Importance of data validation • Checking for specific values • Checking for a range of values • String comparisons • While loop structure • Logical comparisons • Multiple conditions • Do - While loops ***Learning Outcomes: 2, 4***
Project Definition and Design	• Specification, design, implementation, test cycle • Project Brief to Specification • Object Definition Sheets • Debugging and testing ***Learning Outcome: 1***
Case Study: Creating a GUI program that uses sequence, selection and iteration	• Consolidation of learning from topics 1 – 6 • Student mid-course assignment ***Learning Outcomes: 1, 2, 3, 4***
Introduction to Arrays	• Benefits of arrays • Declaring arrays • Initialising and filling arrays • Accessing and changing values in arrays • Manipulating arrays using for loops • Sorting arrays ***Learning Outcomes: 4, 6***

Introduction to Methods	• Different method types in VB (Subs and Functions) and scope • Parameter passing • Return statements • Method overloading
Introduction to File I/O	• Files and data storage • Writing to files • Reading from files • Exception handling for file I/O ***Learning Outcome: 5***
Case Study: Creating a GUI program that uses arrays, procedures and file I/O	• Consolidation of learning from topics 1 – 10 • Student end of course exam ***Learning Outcomes: 1, 2, 3, 4, 5, 6***

Related National Occupational Standards (NOS)
Sector Subject Area: 6.1 ICT for Users **Related NOS:** 5.1.A.1 - Carry out system development activities under direction; 5.1.P.1 - Perform systems development activities; 5.1.P.2 - Contribute to the management of systems development; 5.2.J.1 - Perform specified software development activities; 5.2.P.2 - Perform software development activities; 5.3.A.1 - Carry out IT/Technology solution testing activities under direction; 5.3.P.1 - Carry out IT/Technology solution testing

Assessment
Global Assignment
See also Section 3 above

5.3 Computer Networks

Title:	Computer Networks

Credits	15	**Level**	4

Guided Learning Hours	60 hours	**Total Qualification Time**	150 hours

Learning Outcomes; The Learner will:	**Assessment Criteria;** The Learner can:
1. Understand network and communication protocols	1.1 Explain the overarching principles of the OSI seven-layer model 1.2 Explain the function of each layer of the OSI model, and the protocols associated with it. 1.3 Explain the function and application of a range of communication and network protocols. 1.4 Evaluate the use of various protocols against real-world purposes 1.5 Explain the function and rationale of wireless networking standards 1.6 Explain a range of contemporary wireless standards and their relevant applications.
2. Understand the principles of common network topologies and architectures	2.1 Explain the concept of network topology and its design. 2.2 Discuss various common network topologies and their application(s). 2.3 Propose a simple network topology in response to detailed requirements
3. Understand the application of network security measures	3.1 Install and configure a firewall on an internet-connected system 3.2 Install and configure essential software security measures
4. Be able to select and configure the hardware components of a computer network to meet the requirements of a precise specification.	4.1 Categorise network cables and connectors and their implementations 4.2 Select the hardware component of a network 4.3 Assemble the necessary hardware components to create a network according to a design specification 4.4 Configure the hardware components for a wireless network 4.5 Test the connectivity of a network 4.6 Troubleshoot client-side connectivity issues using appropriate tools

5. Be able to design and install network and server operating systems to meet the requirements of a precise specification.	5.1 Identify the software requirements for a computer network 5.2 Install and run appropriate network software according to a design specification. 5.3 Install and run software components for a wireless network. 5.4 Test the correct operation of network and server software
6. Be able to install and configure internet telephony and communication systems	6.1 Install and configure a Voice over IP (VoIP) system 6.2 Install and configure a web-based video conferencing solution 6.3 Install and configure a Virtual Private Network (VPN)

Syllabus Coverage	
Topic	**Course coverage**
Introduction to the Module and Networks	Introduction to module What is a network? Real world networks The OSI seven-layer model ***Learning Outcome: 1***
Network Protocols and Standards	Communications and network protocols Protocols and the OSI model Protocols in real world networks The Internet ***Learning Outcome: 1***
Wireless Networking Standards	Wireless devices Wireless networking standards Issues for wireless networks Wireless networking protocols ***Learning Outcome: 1***
Network Topology and Architecture	Network topology concepts Common network topologies and their application Topologies and protocols ***Learning Outcome: 2***
Network Media and Connectors	Network media Network connectors Selecting media and connectors ***Learning Outcome: 4***
Network Hardware	Network hardware Hardware selection Creating a network ***Learning Outcome: 4***

Wireless Network Hardware	Wireless network hardware Wireless hardware selection Creating a wireless network ***Learning Outcome: 4***
Security Software	Network security threats Security countermeasures Security software Installing and configuring security software ***Learning Outcome: 3***
Firewalls	Functions of a firewall Types of firewall Installing and configuring a firewall ***Learning Outcome: 3***
Network and Server Software	Network software requirements Wireless network software requirements Configuring network software ***Learning Outcome: 5***
Voice over IP and Video Conferencing	Voice over IP (VoIP) Video conferencing Installing and configuring voice networks Installing and configuring video networks ***Learning Outcome: 6***
Virtual Private Networks	Virtual private networks (VPN) Advantages and disadvantages of VPN Installing and configuring VPN ***Learning Outcome: 6***

Related National Occupational Standards (NOS)
Sector Subject Area: 6.1 ICT Professional Competence **Related NOS:** 4.1.A.1 – Contribute to IT architecture work; 4.8.A.1 – Prepare, under supervision, for IT/technology infrastructure design and planning activities; 4.8.A.2 – Assist with IT/technology infrastructure design and planning activities; 4.8.A.3 – Assist others with relevant information concerning IT/technology infrastructure design and planning assignments; 5.4.A.1 - Perform systems integration activities as directed; 5.4.P.2 - Perform systems integration activities; 5.5.A.1 - Assist with gathering and documenting information to support systems installation, implementation and handover; 5.5.P.1 - Perform systems installation, implementation and handover activities

Assessment
Global Assignment (100%)
See also Section 3 above

5.4 Computer Systems

Title:	Computer Systems

Credits	15	**Level**	4

Guided Learning Hours	60 hours	**Total Qualification Time**	150 hours

Learning Outcomes; The Learner will:	**Assessment Criteria;** The Learner can:
1. Understand the function of computer systems	1.1 Explain the role of computer systems in different environments 1.2 Explain the hardware, software and peripheral components of a computer system 1.3 Compare different types of computer systems
2. Be able to design computer systems	2.1 Produce a system design specification to meet a client's needs 2.2 Evaluate the suitability of a system design specification
3. Be able to build and configure computer systems	3.1 Build and configure a computer system to meet a design specification 3.2 Test and document a computer system
4. Be able to undertake routine maintenance on computer systems	4.1 Perform routine maintenance tasks on a computer system 4.2 Upgrade the hardware and software on a computer system

Syllabus Coverage	
Topic	**Course coverage**
Introduction to Computer Systems	Overview of the module Types of computer - Personal, mini, mainframe, mobile, - Network, supercomputer, multiprocessor History of modern computers - Show & tell of old and modern computer equipment - Student research on generations of computer ***Learning Outcome: 1***

Environments, Functions of components and Health & Safety	Computing Environments - Home, business, computer gaming, networking, real-time, communication Von Neumann architecture - Example processors - Fetch execute cycle Internet research – Different types of processor. - RISC v CISC - Single v multi core - Multiprocessor - Distributed Health and safety practices; mains electricity, hot components, lifting and carrying, electrostatic precautions. ***Learning Outcome: 1***
Hardware	Standard architecture - CPU, main memory (RAM, ROM), Backing storage, I/O Current implementation of standard architecture - CPU, motherboard, Power supply, cooling, backing store (hard disk, optical disks), memory types, interfaces (PCI, AGP, PCI Express), NIC, graphics card, sound. Inside a PC - Identify components and their functions Identify alternative components and packaging ***Learning Outcome: 1***
Peripherals and System Building	Printers, & plotters, cameras & scanners; keyboard, mouse, touch screen/pad; monitors, display adapters; multimedia devices; storage media; networking; portable drives; plug and play components; performance factors Disassemble and assemble a computer system - Install motherboard, processor, heat-sink and fan, memory, power supply unit - Install hard disc drive, optical drive; - Install specialised cards - Install peripheral devices ***Learning Outcomes: 1 & 3***
Software, Installation and Configuration	Systems software - Operating systems, - Utility programmes, - Library programmes, - Translator programmes Applications software - Standard packages - Customised packages - Special purpose software - Bespoke software Install key software - Windows Operating Systems - Office package - Free utility software - Anti-virus and security software ***Learning Outcomes: 1 & 3***

Alternative Operating Systems	- Alternative operating systems - UNIX/Linux, OS X, Android - Linux installation ***Learning Outcome: 1***
System Testing	Test plan Test documentation Fault detection, diagnostics, troubleshooting Technical support Test hardware and software Repair Fault diagnosis exercises ***Learning Outcome: 3***
Software Maintenance	Software problems Automatic updates Upgrades Utility software Security software Scheduling maintenance Windows update exercise Package update exercise Driver update ***Learning Outcome: 4***
Hardware Maintenance	Preventative maintenance Upgrade v replace Hardware upgrade - Priorities - Internal components - Peripherals Hardware upgrade exercises e.g. - Memory update - Graphics upgrade - Hard disk upgrade - Add second NIC ***Learning Outcome: 4***
File Management	File systems operation and organisation - FAT, NTFS, ext - Directories/folders - Security, sharing and access rights Data Protection - Backup - File/folder organisation Windows file management exercises ***Learning Outcome: 4***
Needs Analysis	Client and system requirements - Investigation/analytical techniques - Problems/limitations with current/new system - Functionality, costs, timescales, resources Case study - Introduction - Needs analysis exercise ***Learning Outcome: 2***

Selection and Systems Specification	Selection criteria System integration Accessibility Alternative solutions - Identification, selection & justification Matching client requirements and system requirements with system components Systems options - Off the shelf, self-build, customise - Alternatives System documentation Case study – Selection & specification ***Learning Outcome: 2 & 3***

Related National Occupational Standards (NOS)
Sector Subject Area: 6.1 ICT Professional Competence **Related NOS** 4.1.A.1 – Contribute to IT architecture work; 4.1.A.2 – Gather, use and maintain information relating to IT architecture models; 4.8.A.1 – Prepare, under supervision, for IT/technology infrastructure design and planning activities; 4.8.A.2 – Assist with IT/technology infrastructure design and planning activities; 4.8.A.3 – Assist others with relevant information concerning IT/technology infrastructure design and planning assignments; 5.4.A.1 - Perform systems integration activities as directed; 5.4.P.2 - Perform systems integration activities

Assessments
100% Global Assignment
See also section 3 above

5.5 Designing and Developing a Website

Title:	Designing and Developing a Website

Credits	15	**Level**	4

Guided Learning Hours	90 hours	**Total Qualification Time**	150 hours

Learning Outcomes; The Learner will:	**Assessment Criteria;** The Learner can:
1. Design a website to address loosely-defined requirements	1.1 Identify the key design features inherent within a requirements specification 1.2 Use planning tools and techniques to create a site map 1.3 Evaluate different design models and select the most appropriate to meet requirements.
2. Use web development tools to build (X)HTML- and CSS-based websites to address well-defined specifications	2.1 Describe the use of (X)HTML to develop websites 2.2 Describe how to use CSS to standardise the overall style of a website 2.3 Write the source code for a simple web page in clean XHTML according to a specification. 2.4 Write the source code for a CSS according to a specification 2.5 Explain the contextual application of a variety of web development tools 2.6 Explain the advantages and disadvantages of various web development methodologies and technologies
3. Understand the technology and tools needed to use multimedia in the context of a website	3.1 Explain the advantages and disadvantages of various types of multimedia file formats 3.2 Explain the advantages and disadvantages of different types of multimedia elements in relation to different contexts 3.3 Embed functional multimedia components in an (X)HTML site
4. Develop test strategies and apply these to a website	4.1 Develop and apply a test strategy consistent with the design 4.2 Determine expected test results 4.3 Record actual test results to enable comparison with expected results 4.4 Analyse actual test results against expected results to identify discrepancies 4.5 Investigate test discrepancies to identify and rectify their causes 4.6 Explain the need for testing on different platforms and browsers

5. Understand the need for Web standards	5.1 site coding from the viewpoint of an IT professional
6. Understand the concepts associated with using the Internet and the World Wide Web for business	6.1 Explain the underlying physical and operational properties of the Internet and World Wide Web, including the difference between the two 6.2 Discuss the Internet and the Web as a business tool, including (but not limited to) as a tool for communications, research, sales and marketing 6.3 Discuss the advantages and disadvantages of various internet-based models, in different contexts 6.4 Discuss the advantages and disadvantages of various eCommerce models, in different contexts

Syllabus Coverage	
Topic	**Course coverage**
Introduction to the Module	What is the WWW? o How the WWW works The W3C and the importance of web standards The challenges of web design: o Browsers o Screen resolution o Accessibility o Usability ***Learning Outcomes: 5 & 6***
Introduction to (X)HTML	Basic principles of markup: elements, tags and attributes Document structure: o Document Type Declarations o The root element o The head and body sections Structuring text: heading, paragraphs and lists Block level and inline elements Validating documents ***Learning Outcome: 2***
Hyperlinks	Using the anchor element Relative and absolute URLs In-page hyperlinks The HTML 5 nav element Accessible hyperlinks ***Learning Outcomes: 2 & 6***

Introduction to Cascading Style Sheets (CSS)	What is CSS, why do we need CSS? Applying CSS: inline, embedded and external style sheets Overview of CSS selectors, properties and values Efficient CSS Validating CSS Developer tools ***Learning Outcome: 2***
Integrating Media	Image file types Inserting images Image maps Audio and video file types The object tag HTML 5 video and audio tags Accessibility and media types ***Learning Outcomes: 2, 3 & 5***
HTML Tables	Basic structure of HTML tables Column and Row Spanning Tables as a page layout device CSS and tables Accessibility and tables ***Learning Outcomes: 2 & 5***
HTML Forms	Basic structure of HTML Forms HTML Form elements Accessibility and HTML forms Controlling the layout of forms HTML 5 form elements ***Learning Outcomes: 2 & 5***
Page Layout with CSS	The class and id selectors Floating and positioning Fixed width and fluid page design HTML 5 section elements Page layout and mobile devices ***Learning Outcomes: 2 & 5***
Introduction to Web Design	Understanding why an organisation needs a website: o eBusiness models o eCommerce models The process of designing a website Involving users in the design process Defining content and functionality ***Learning Outcomes: 1 & 6***

Navigation and Interface Design	Site structure Designing navigation Interface Design ***Learning Outcomes: 1 & 5***
Evaluation and Testing	Validating documents Testing with a range of browsers Testing with users An iterative approach to development ***Learning Outcomes: 4 & 5***
Summary	Summary and recap of previous units Hosting a website HTML 5, CSS 3 and the mobile web ***Learning Outcomes: All***

Related National Occupational Standards (NOS)
Sector Subject Area: 6.1 ICT Professional Competence **Related NOS:** 4.6.A.1 – Contribute to human interaction and interface (HCI) design activities; 4.6.A.2 – Assist, under supervision, with the progress of human interaction and interface (HCI) design assignments; 4.6.P.1 – Prepare for human interaction and interface (HCI) design activities; 4.6.P.2 – Implement, under supervision, human interaction and interface (HCI) design activities; 4.6.P.3 – Manage the needs of different users of HCI design activities; 4.6.S.1 – Plan human interaction and interface (HCI) design activities

Assessments
100% Global Assignment
See also section 3 above

6. Results and Certificates

The grade descriptors Pass, Merit and Distinction are awarded by Unit to successful candidates. A Pass is awarded for an overall Unit mark of between 40 and 59. A Merit is awarded for an overall Unit mark of between 60 and 69 and a Distinction is awarded for an overall Unit mark of 70 and above. Candidates who obtain an overall Unit mark of below 40 are classed as *failed* in the Unit and may resit.

A final Qualification mark will be awarded upon successful completion of all units. This is calculated by multiplying the candidate's unit mark with the unit's points. The total of this is then divided by the total qualification points. An example is given below:

Unit	Unit Points	Candidate Mark	Unit Points * Candidate Mark
English For Academic Purposes	10	88	880
Introduction to Programming	10	72	720
Computer Networks	15	81	1215
Computer Systems	15	88	1320
Designing and Developing a Website	15	93	1395
	65	**422**	**5530**
			5530/potential 6500 = 85

Grade Descriptors incorporate characteristics intended to provide a general indication of assessment performance in relation to each Unit's Learning Outcomes in this specification. The final Unit grade awarded will depend on the extent to which a candidate has satisfied the Assessment Criteria. A qualification is awarded when the candidate has achieved at least a pass in all Units.

After each assessment cycle, results slips are issued (in electronic format) which detail the grades achieved, i.e. Fail, Pass, Merit or Distinction (see *Appendix 2*). Certificates which contain your qualification grade and pass mark are then dispatched to Centres.

7. Further Information

For more information about any of NCC Education's products please contact customer.service@nccedu.com or alternatively please visit www.nccedu.com to find out more about our suite of high-quality British qualifications

Appendix 1 Qualification Documentation

The following NCC Education documentation has been referred to in this specification:

- Reasonable Adjustments and Special Considerations Policy
- Examination Guidelines
- Moderation Manual
- Activity Schedule
- Operations Manual

All documentation, together with access to NCC Education's online resources, is available to Centres and (where applicable) candidates who have registered for assessment.

Appendix 2 Grade Descriptors

The grade descriptors Pass, Merit and Distinction are awarded to successful candidates. The following are characteristics intended to provide a general indication of assessment performance in relation to each Learning Outcome in this specification. The final grade awarded will depend on the extent to which a candidate has satisfied the Assessment Criteria overall.

Grade descriptors for English for Academic Purposes

Learning Outcome	Pass	Merit	Distinction
Be able to utilise different 'pre', 'while' and post reading strategies to understand academic texts	Demonstrate adequate and appropriate use	Demonstrate appropriate and effective use	Demonstrate highly appropriate and effective use
Be able to demonstrate an appropriate academic vocabulary	Demonstrate an adequate vocabulary	Demonstrate a robust vocabulary	Demonstrate a comprehensive vocabulary
Be able to structure sentences, paragraphs and full texts to suit academic requirements	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Be able to utilise 'pre', 'while' and post listening strategies to understand different speakers and academic topic information	Demonstrate adequate and appropriate use	Demonstrate appropriate and effective use	Demonstrate highly appropriate and effective use

Grade descriptors for Introduction to Programming

Learning Outcome	Pass	Merit	Distinction
Create project documentation.	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate to perform the task to
Implement a program uses data capture and validation.	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate to perform the the highest
Implement a program uses sequential programming with data types.	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate to perform the the highest
Implement a program uses iteration and selection constructs.	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate to perform the the highest
Implement a program uses file i/o.	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate to perform the task to
Implement a program uses arrays	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate to perform the task to

Grade descriptors for Computer Networks

Learning Outcome	Pass	Merit	Distinction
Understand network and communication protocols	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the principles of common network topologies and architectures	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the application of network security measures	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Be able to select and configure the hardware components of a computer network to meet the requirements of a precise specification	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Be able to design and install network and server operating systems to meet the requirements of a precise specification	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Be able to install and configure internet telephony and communication systems	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard

Grade descriptors for Computer Systems

Learning Outcome	Pass	Merit	Distinction
Understand the function of computer systems	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Be able to design computer systems	Provide adequate design to address the specification	Provide detailed and appropriate design to address the specification	Provide wholly appropriate and innovative design that meets the specification
Be able to build and configure computer systems	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Be able to undertake routine maintenance on computer systems	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard

Grade descriptors for Designing and Developing a Website

Learning Outcome	Pass	Merit	Distinction
Design a website to address loosely-defined requirements	Provide adequate design to address the specification	Provide detailed and appropriate design to address the specification	Provide wholly appropriate and innovative design that meets the specification
Use web development tools to build (X)HTML- and CSS-based websites to address well-defined specifications	Demonstrate adequate and appropriate ability to build artefact	Demonstrate sound and consistently appropriate ability to build artefact	Demonstrate exceptional ability to build artefact
Understand the technology and tools needed to use multimedia in the context of a website	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Develop test strategies and apply these to a website	Show adequate development	Show sound and appropriate development	Show innovative and highly appropriate development
Understand the need for Web standards	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the concepts associated with using the Internet and the World Wide Web for business	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding