

The Department

Mr P Roberts – Head of ICT and Mathematics

Mr A S Birkett

Ms R Roden



General Purpose

The main purpose of ICT in Education is primarily the implementing of ICT Equipments and Tools in Teaching-Learning processes. The purpose of ICT in education is generally to familiarise students with the use and workings of computers, and related social and ethical issues.

ICT has also enabled learning through multiple intelligences, as ICT has introduced learning through simulation games; this enables active learning through all senses.

ICT's Contribution to the Curriculum at Key Stage 3

Information Communication Technology (ICT) is a foundation subject within the national curriculum. ICT is also one of the Key Skills, which should be taught as an integral part of all foundation subjects.

At the end of KS3 all students will sit ICT Functional skills Level 2, with the chance of a pilot group sitting the GCSE short course at the same point as a means of stretching our most able students.

Aims:

Prepare students for the increasingly technological world that they will face in adult life.

Aim to equip students to participate in society in a meaningful and positive way.

The ICT department aims to develop students with appropriate ICT skills, concepts, principles, methods and vocabulary - thus enabling staff across the Curriculum to assume correctly that students have a basic level of competence.

ICT aims to open sections of the curriculum previously unattainable due to the deficiencies in students' knowledge, experience and skills.

The ICT department aims to develop, maintain and stimulate students' curiosity, interest and enjoyment in ICT.

The ICT department aims to develop students' personal qualities such as politeness, perseverance, initiative, empathy, self-confidence, independence and an ability to work effectively in a group.

The ICT department aims to enable all students to have equal access to ICT and experience success in their work.

The Learning Environment

Information Communication Technology (ICT) taught courses take place in one of the 2 dedicated ICT suites that each has 30 student computers.

Rooms 42 & 43, which are the primary ICT suites, also have ample desk space to enable staff the flexibility to work at the computer or at desks as necessary.

Each ICT suite has a teacher machine that is connected to a projector to enable for effective demonstration of the ICT skills to be developed.

The All ICT modules are supported by teacher demonstration via projectors.

Good ICT work is displayed in the main ICT suites to encourage students to aspire to higher standards.

Inclusion and Learning support

All students receive equal opportunities to take part in all aspects of ICT lessons; teachers should ensure that all students have equal opportunities to take part in all aspects of the lesson.

Learning support assistants are used to support students when available, they may work with individuals, small groups and/or respond to the needs of a teaching group depending upon the activity and the needs of the students within that group.

Differentiation

Students work in ICT is differentiated by the fact that:

1. the work set out in the booklets/intranet is progressive
2. the level of support provided by the teacher and or Teaching Assistant when present
3. the students response (output)

Safe practice

The ICT department adheres to the school's health and safety policy

The school operates a strict Internet policy where no student will be given access until they have returned a signed agreement from their parents.

All Internet use is monitored by network software that is able to filter unknown inappropriate sites (However, remember no filter is perfect.)

External Email communication in lessons is to be done using class email addresses.

Virus software runs on all machines with floppy disk access and user areas are routinely scanned for unauthorised files (i.e. programs).

All CD-Rom drives are disabled in ICT areas that are potentially unsupervised.

Key Stage 4

OCR GCSE Course Rationale:

A course in Information and Communication Technology offers a unique opportunity in the curriculum for candidates to identify and solve real problems by designing information and communication systems in a wide range of contexts relating to their personal interests. Information and Communication Technology develops candidates' interdisciplinary skills and their capacity for imaginative, innovative thinking, creativity and independence.

The specification encourages the investigation and study of Information and Communication Technology in a variety of contexts. In these contexts the candidates are given opportunities to acquire competence, capability and critical skills through the creation, implementation, use and evaluation of a range of information and communication systems. Candidates from all cultures and both genders can develop their interest in, enjoyment of, and critical reflection about information technology as an integral part of modern society. This specification has been developed by OCR to provide the opportunity for candidates to obtain a qualification in:

OCR GCSE (Single Award) Information and Communication Technology

Structure

<p>1. Written paper or Computer-based test 1 hour – 60 marks 20% of the GCSE 40% of the GCSE Short Course</p>	<p>2. Controlled assessment 60 marks 30% of the GCSE 60% of the GCSE Short Course Candidates create an ICT solution using ICT applications</p>
<p>3. Written paper or Computer-based test 1 hour – 60 marks 20% of the GCSE Written paper based on pre-release material: candidates answer all questions</p>	<p>4. Controlled assessment 60 marks 30% of the GCSE Candidates solve a problem by creating and developing a multimedia solution with appropriate creative elements</p> <p>or</p> <p>Controlled assessment 60 marks 30% of the GCSE Candidates identify a potential coded solution to a problem and solve using basic programming techniques</p>

Units 1 & 2 are followed in year 10 and Units 3 and 4 in year 11

Full course GCSE is desirable for those wishing to follow ICT at A Level.

Subject Specific Revision Resources:

Break down learning of syllabus into manageable chunks and systematically learn from March onwards.

The BBC Bitesize revision is a good resource and can be found:

<http://www.bbc.co.uk/schools/gcsebitesize/ict/>

Teach-ICT.com has lots of revision quizzes/games

http://www.teach-ict.com/gcse/gcse_quizzes.html

The website has revision games and tutorials on how to use software like excel and access

<http://www.reviseict.co.uk/>

ICT GCSE Success Visual Revision guides and Q & A workbooks provided.

Lunch time revision workshops:

Available on request by students as and when students' require. Structured sessions are offered during terms 3 and 4 when all coursework is due in.

Subject Specific Exam Skills:

Learning tips for all

- Plan your revision carefully
- Ensure you eat and get enough sleep and exercise.
- Work out the time at which you are most switched on and plan revision for these times.
- Spend time imagining yourself doing all the things that will add up to a successful revision session. Research shows that this helps you commit the time to your revision.
- Start taking revision notes in the form of mind maps.
- Stick to the three-times rule: revise everything at least three times in order to embed it in the long-term memory.

Learning Character types

Linguistic Luke: *Can you explain things clearly to others?* You are good with words so have fun with this when your revision – use puns, rhymes and stories to help you revise.

Mathematical Martha: *Are you methodical tackling things one step at a time?* You are good with numbers and enjoy tasks that involve reasoning. Play to your strengths by arranging information in the form of graphs, diagrams or timelines.

Interpersonal Ian: *Are you a good go-between with friends?* You are good at putting yourself in other people's shoes, so try imagining yourself in the situation. You will benefit from revising with friends but have clear outcomes for each revision session.

Kinaesthetic Kathy: *Do you like making things, do you like moving and doing rather than sitting and writing?* Write out your notes on post-its and stick them around your room ideally as mind maps (or if your parents let you around the house). Then journey around room/house to study bits of information.

Musical Melvin: *Can you remember the words of songs easily?* Try to create songs and rhymes as a way embed facts. Put facts to music you may find it easier to recall.

Visual Vicki: *Are you good at map-reading, do you rarely get lost?* You are a born user of min-maps, try to create thought pictures that help you remember things.

Make sure you know all the key terminology for each section of course.

Most years there is a question about spreadsheets and formulae, make sure you know how to create formulae

Examination preparation for the social implications of ICT topic is often overlooked or only looks at issue from one perspective, you will need to give balanced view stating advantages and disadvantages, to help you cover this wide topic, there are several videos clips the school ICT intranet

Revision Planner

Subject: Information Communication Technology	Course: OCR GCSE Full course
Tier: Higher/Foundation	

Paper 1: Higher	1 hour 30	
Paper 2: Higher	1 hour 30	

Section:

What you need to know / be able to do: Understand and write accurately on the following topic areas:	Information can be found in:	Tick each time revised
What is an Information System <ul style="list-style-type: none"> ○ Data ○ Information ○ The three stages of doing tasks ○ Manual information systems ○ Computerised information systems 	ICT for GCSE Online Textbook 1.1 What is an information system? CGP GCSE Success ICT Revision Guide - Page 4 CGP GCSE Success ICT Q & A – Page 6 www.bbc.co.uk/schools/gcsebitesize/ict/system/	
The Components of an Information Systems <ul style="list-style-type: none"> ○ Hardware & Software ○ Why use computers? ○ Are there any drawbacks to using computers? ○ Processing data ○ Types of computer 	ICT for GCSE Online Textbook 1.2 What are hardware and software? 2.1 Different types of computer	
The 'Ins' and 'Outs' of Systems <ul style="list-style-type: none"> ○ Input devices ○ Output devices 	ICT for GCSE Online Textbook 2.3 Input devices 2.4 More input devices 2.5 Output devices 2.6 More output devices CGP GCSE Success ICT Revision Guide - Pages 6&7 CGP GCSE Success ICT Q & A – Page 8 www.bbc.co.uk/schools/gcsebitesize/ict/hardware/(Input and output devices)	
Storing Data <ul style="list-style-type: none"> ○ The Storage of data ○ Memory (Main Store) ○ Magnetic Media ○ Optical disks ○ Flash memory 	ICT for GCSE Online Textbook 2.7 Storage devices 2.8 More storage devices CGP GCSE Success ICT Revision Guide - Page 8&9 CGP GCSE Success ICT Q & A – Page 10 www.bbc.co.uk/schools/gcsebitesize/ict/hardware/(Data storage)	
Software <ul style="list-style-type: none"> ○ What is software? ○ Operating systems (systems software) ○ Multitasking ○ Multiuser ○ User interface 	ICT for GCSE Online Textbook 3.1 Operating systems 3.2 User interfaces CGP GCSE Success ICT Revision Guide - Page 24-9	

<ul style="list-style-type: none"> ○ Applications Software ○ Programming languages 	<p>CGP GCSE Success ICT Q & A – Page 24-7</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/software/ (User interfaces, Operating systems)</p>	
<p>Checking Data.</p> <ul style="list-style-type: none"> ○ Reasons for errors ○ Consequences of errors ○ How are errors avoided? ○ Validation ○ Verification 	<p>ICT for GCSE Online Textbook 11.3 Capturing, entering and editing data</p> <p>CGP GCSE Success ICT Revision Guide - Page 46-9</p> <p>CGP GCSE Success ICT Q & A – Page 44-9</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/databases/ (Data validation and verification)</p>	
<p>How Data Is Stored: Databases.</p> <ul style="list-style-type: none"> ○ The parts of a database (files, fields and records) ○ A card box filling system ○ Record design ○ Computerised databases (advantages and disadvantages) ○ Geographical information systems 	<p>ICT for GCSE Online Textbook 11 Working with information</p> <p>CGP GCSE Success ICT Revision Guide - Page 30-3</p> <p>CGP GCSE Success ICT Q & A – Page 30-3</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/databases/ (Databases and data capture)</p>	
<p>Data Transfer.</p> <ul style="list-style-type: none"> ○ File conversion ○ ASCII files ○ Transferring data between word processors ○ Data/file compression 	<p>ICT for GCSE Online Textbook 3.3 Data transfer</p> <p>CGP GCSE Success ICT Revision Guide - Page 20-1</p> <p>CGP GCSE Success ICT Q & A – Page 22</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/software/ (Data Transfer)</p>	
<p>Ways of Presenting Your Data.</p> <ul style="list-style-type: none"> ○ Hard copy ○ Presentation graphics ○ Multimedia ○ CD-ROM ○ Sound ○ MIDI ○ Virtual reality 	<p>ICT for GCSE Online Textbook 8 Bringing everything together</p> <p>CGP GCSE Success ICT Revision Guide - Page 54-5</p> <p>CGP GCSE Success ICT Q & A – Page 54</p>	
<p>Weather Forecasting.</p> <ul style="list-style-type: none"> ○ Weather reporting the old way ○ Weather reporting ○ The sensors ○ Analogue-to-digital conversion ○ Advantages of data logging ○ Transferring weather data to another package ○ Weather satellites 	<p>ICT for GCSE Online Textbook 13 Getting in control 14 Data logging with computers</p> <p>CGP GCSE Success ICT Revision Guide - Page 40-1</p> <p>CGP GCSE Success ICT Q & A – Page 40-1</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/measurecontrol/ (data logging)</p>	

<p>Transferring Data Around</p> <ul style="list-style-type: none"> ○ Networks ○ Local area networks (LANs) ○ Wide area networks (WANs) ○ Advantages and disadvantages of networks ○ The bits that make up a network 	<p>ICT for GCSE Online Textbook 2.9 Networking systems 2.10 Advanced networking systems</p> <p>CGP GCSE Success ICT Revision Guide - Page 14-9 & Pages 86-91</p> <p>CGP GCSE Success ICT Q & A – Page 18-21 & Page 78-87</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/datacomm/ (The Internet, e-mail and Networks)</p>	
<p>Data and You: The Data Protection Act.</p> <ul style="list-style-type: none"> ○ Computers and privacy ○ Loyalty Cards ○ The Data Protection Act 	<p>ICT for GCSE Online Textbook 18.3 Data protection</p> <p>CGP GCSE Success ICT Revision Guide - Page 80-1</p> <p>CGP GCSE Success ICT Q & A – Page 76</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/legal/ (Data protection act)</p>	
<p>ICT & Healthcare</p> <ul style="list-style-type: none"> ○ ICT @ the GP's ○ Robotic Prosthetics ○ Booking Systems ○ Technology hope for disabled ○ New Developments in Health and ICT ○ New ultra sound ○ Remote Healthcare ○ Nanotechnology 		
<p>ICT & Crime</p> <ul style="list-style-type: none"> ○ Email Scams ○ Phishing ○ Credit Card Fraud ○ Crime fighting with databases ○ Identity Theft ○ Biometrics 	<p>CGP GCSE Success ICT Revision Guide - Page 56</p> <p>CGP GCSE Success ICT Q & A – Page 56</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/legal/ (Data and Computer Misuse)</p>	
<p>Misuse of ICT</p> <ul style="list-style-type: none"> ○ Spam ○ Computer Viruses ○ Cyber Slacking ○ Hacking ○ Zombie PCs 	<p>ICT for GCSE Online Textbook 18.1 Viruses</p> <p>CGP GCSE Success ICT Revision Guide - Page 79</p> <p>CGP GCSE Success ICT Q & A – Page 74</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/legal/ (Viruses)</p>	
<p>Copyright & Privacy</p> <ul style="list-style-type: none"> ○ Copyright & Music ○ Copy Protection ○ Copyright & Software ○ File Sharing ○ Copyright & Films ○ New methods for copyright? 	<p>ICT for GCSE Online Textbook 18.2 Copyright and hacking</p> <p>CGP GCSE Success ICT Revision Guide - Page 78</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/legal/ (Copyright)</p>	

<p>Health & Safety</p> <ul style="list-style-type: none"> ○ Repetitive Strain Injury ○ Stress in the Workplace ○ Dangers of using Chatroom ○ Danger on the Net ○ Working in a Call centre 	<p>ICT for GCSE Online Textbook 18.6 Health and safety</p> <p>CGP GCSE Success ICT Revision Guide - Page 76-7</p> <p>CGP GCSE Success ICT Q & A – Page 72</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/implications/ (Health and safety)</p>	
<p>Social Impact</p> <ul style="list-style-type: none"> ○ Teleworking ○ Robots ○ Robot Development ○ Broadband Internet ○ Internet Shopping ○ Online Gambling ○ ICT in the future 	<p>ICT for GCSE Online Textbook 18.4 Information systems and society 18.5 More on information systems and society</p> <p>CGP GCSE Success ICT Revision Guide - Page 72</p> <p>CGP GCSE Success ICT Q & A – Page 68-71</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/implications/ (Moral and social issues, Changing lifestyles & Changing work patterns)</p>	
<p>Systems Analysis</p> <ul style="list-style-type: none"> ○ Analysis ○ Design ○ Implementation ○ Testing ○ Evaluation 	<p>ICT for GCSE Online Textbook 16 Developing systems</p> <p>CGP GCSE Success ICT Revision Guide - Page 60-69</p> <p>CGP GCSE Success ICT Q & A – Page 58-67</p> <p>www.bbc.co.uk/schools/gcsebitesize/ict/system/ (Implementing a new computer system)</p>	

Key Stage 5 (Post 16)

WJEC Course Rationale

The new WJEC GCE in Applied ICT provides students with a wholly new perspective on the world of Information and Communication Technology.

Students will be assessed on a paperless basis with a combination of Electronic Case Studies, On-screen Examinations and tasks based on real/realistic organisations. 60% of the assessment is internal and 40% external.

Students will need to operate within an environment of ideas and demonstrate an understanding of ICT spanning state of the art applications to the complex networks of contemporary society.

Structure

Unit and Name AS Single A Single Award

<u>Mr Birkett</u>	<u>Ms Roden</u>
1.eBusiness Mandatory (40%) A/S Level Mandatory (20%) A Level External: 3 hour on-screen examination	2.eskills Mandatory (60%) Mandatory (30%) A Level Internal: Awarding Body devised assignment
6.eStudio Optional (Select either unit 6,8or 9) (30%) A Level Internal: Awarding Body devised assignment	5.eProject Mandatory (20%) A Level External: controlled assignment

Specification Content

AICT 1 - eBusiness

Gaining skills in eBusiness

Introduction

We all know that ICT is constantly changing - hardware and software is forever developing and evolving. Businesses also have to change in order to remain competitive and many adopt developments in ICT to gain a competitive advantage. The ways in which we need to work and interact with others have changed: email; mobile communications; videoconferencing; home working and hot-desking are but a few of these changes. We need to be competent users of a variety of different devices and software applications: computers; laptops; PDAs; smartphones all use a variety of software essential to the eBusiness. New jobs have developed as a result of eBusiness, such as web designers and database managers. Nearly all businesses demand ability in ICT these days, and for many jobs specific ICT skills are essential.

Assessment of this unit

This is a mandatory unit for all award combinations. The assessment of this unit is by external on-screen examination, set and marked by WJEC. The examination will consist of objective and subjective assessment items, based on stimulus information consisting mainly of case studies of actual and/or fictionalised businesses. The assessment is organised into part A and Part B. Part A is question based whereas part B is a combination of practical tasks and questions.

AICT 2 – eSkills

Managing eBusiness data

Introduction

For eBusinesses to succeed they must make a profit – forecasting and data management is critical to success. eBusinesses use ICT to plan, monitor and forecast their daily progress and require experts in the use of spreadsheets and databases to manage this process. The ability to effectively interpret situations; forecast events and monitor data trends will offer the eBusiness the potential to succeed.

Assessment of this unit

This is a mandatory unit for all award combinations. Candidates will be required to produce database and spreadsheet solutions to suit business related situations described in the board set assignment. The scenario will provide background information to the problem and will describe current working practices and their associated problems.

AICT 5 – eProject

Project planning for ICT.

Introduction

A project of any size needs effective planning to maximise success. Managing eProjects are no different. In fact effective project management is essential to the completion of any ICT based project. eProject managers need to be skilled in applying their knowledge and eSkills to solve problems and be able to manage available resources. Team working skills are essential. Self-discipline to complete individual tasks is a prerequisite. eBusinesses need good eProject managers.

Assessment of this unit

This is a mandatory unit for the A Level Single and A Level Double Awards. The assessment of this unit is external, through the use of a Controlled Assignment written by the WJEC.

AICT 6 – eStudio

ICT Marketing communications.

Introduction

In the eMarketplace, price alone cannot be the only factor when comparing similar products or service. The strength of product branding and image is critical. Driving promotional campaigns to raise consumer awareness is necessary when marketing new or re-launching existing products or services. The effective eStudio must provide accurate information; communicate effectively with its audience whilst maintaining a superior product image whilst meeting their client's expectations. The successful eStudio must be equipped with eCompetent employees complete with imagination, foresight and up to date graphics and multimedia skills.

Assessment of this unit

This is an optional unit for the A Level Single and Double Awards. Candidates are required to develop a set of graphic and multimedia products to support a Promotional campaign.

Candidates will need to identify	Candidates will need to produce
Purpose and target audience (s) of the promotional campaign and a list of promotional products required for the campaign.	Clear success criteria for the promotional products
	Evidence of initial design, development and testing
	The finished promotional products
	An eportfolio of evidence
	A review of the process and of their work.

A/S Students will need to complete Units 1 & 2; A Level students will then progress to complete units 5 & 6.

More detailed information can be found at <http://www.wjec.co.uk>

N.B.

An A level ICT Qualification would lead nicely into opportunities to read ICT / Computing at undergraduate level.