Oxford Cambridge and RSA Examinations

RECOGNISING ACHIEVEMENT

OCR GCSE IN INFORMATION AND COMMUNICATION TECHNOLOGY B 1995

OCR GCSE (SHORT COURSE) IN INFORMATION AND COMMUNICATION TECHNOLOGY B 1095

Key Features

- Can be taught alongside a range of other vocational qualifications such as CLAIT and CIT.
- Appropriate for whole cohorts with considerable flexibility to enable teachers/tutors to co-teach Key Skills, Short and Full course ICT candidates together.
- Builds upon prior learning by taking a practical and systematic approach to develop a body of skills, knowledge and understanding in a work-related context.
- Full proxy for IT Key Skill units.
- Fully supported case study and examination papers with extensive guidance and exemplar material provided.
- 60% fully supported coursework assessment with considerable flexibility in terms of evidence requirements.

Support and In-Service Training for Teachers

- A full programme of in-service training meetings arranged by the Training and Customer Support Division (telephone 01223 552950).
- Specimen question papers and mark schemes, available from the Publications department (tel 0870 870 6622, fax 0870 870 6621).
- Past question papers and mark schemes, available from the Publications department (tel 0870 870 6622, fax 0870 870 6621).
- Coursework guidance materials.
- Examples of marked work.
- A report on the examination, compiled by senior examining personnel after each examination session.
- Individual feedback to each Centre on the moderation of internally assessed work.

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The scheme of assessment consists of two tiers: Foundation Tier and Higher Tier. Foundation Tier assesses grades G to C and Higher Tier assesses grades D to A*.

The specifications permit staged assessment and operationally use a modular model.

Units 2378 and 2379 have papers at both the Foundation Tier and the Higher Tier. It is not obligatory for candidates to enter units 2378 and 2379 at the same tier.

At certification there are no specific tiers of entry. A candidate's overall grade is determined by the uniform mark scores they achieve for the units.

UNITS

There are two units for Short Course candidates and an additional two units for Full course candidates. Both Full and Short Course students undertake Units 1 and 2 allowing for co-teachability and flexibility in scheduling and timetabling.

Unit 1 (Externally set test).

The Key Skills test.

Unit 2 (Coursework).

A fully supported Awarding Body set coursework task of twelve hours' duration, taken in semi-controlled conditions,

Unit 3 (Coursework).

Full course candidates will extend the coursework activity undertaken in Unit 2 by selecting one area of personal interest and developing it in more depth for a further twelve hours.

Unit 4 (Externally set test).

A written paper in two tiers, based on a set research brief of a commercial organisation and its use of ICT that will be forwarded to Centres prior to the examination. Candidates are permitted to take any preparation work, and research that they complete, into the examination room.

Unit	Entry code	Option Code	Title	Duration	Weighting
1	2377	F	ICT B: Paper 1F	1 hour	40% short 20% full
		H	ICT B: Paper 1H	1 hour	40% short 20% full
2	2378	-	ICT B: Coursework	Approximately 12 hours	60% short 30% full
3	2379	-	ICT B: Coursework Extension Task	Approximately 12 hours	30% full only
4	2380	F	ICT B: Paper 2F	1 hour	20% full only
		H	ICT B: Paper 2H	1 hour and 30 minutes	20% full only

CERTIFICATION

Short Course

Candidates must be entered for certification code 1095.

Full Course

Candidates must be entered for certification code 1995.

Candidates may take units 2377 and 2378 and enter GCSE Short Course certification then go on to take 2379 and 2380 and enter for GCSE Full Course certification. The results of units 2377 and 2378 that were encashed towards the short course may be re-used towards the full course.

Candidates may take all units at the end of their GCSE course in a linear fashion if desired.

Rules of Combination

Short Course

Candidates take units 2377 and 2378.

Full Course

Candidates take all four units.

SECTION B: GENERAL INFORMATION

1 Introduction

1.1 RATIONALE

The world is becoming increasingly dominated by the use of Information and Communication Technology systems, which influence every aspect of our lives. The specification aims in particular to prepare candidates for the world of work. Today's citizens need to be equipped with knowledge and skills to enable them to participate in a technological society. They need technological and information handling skills that include the ability to gather, process, and manipulate data. These skills are now as essential as those of traditional numeracy and literacy.

Few aspects of our society have not been influenced by the Information and Communication Technology revolution. Information and Communication Technology has radically changed the way we work: traditional jobs, such as those in the banking industry, are disappearing while new areas of economic activity, such as e-commerce, are growing rapidly. The citizen of tomorrow needs to be computer literate and able to take advantage of the opportunities afforded, as the use of communication networks becomes common and Information and Communication Technologies provide new opportunities for working, learning and living.

Our age is marked by constant and rapid change. In the lifetime of this specification, technology will continue to make advances and much of what is now considered state-of-the-art will be obsolete. As well as the rapid development of new technologies that gather, organise, and share information, familiar technologies like telephone, television, and computers are evolving and converging.

These specifications aim to prepare candidates for this changing society and to satisfy the requirements of the National Curriculum Key Stage 4 Programmes of Study. The challenge is to develop an understanding of the fundamentals of Information Technology and the tools required for preparing and participating in an evolving information-based society. Students need to have a firm grounding in Information and Communication Technology for their careers, for lifelong learning, and for recreation. It is hoped that the study of Information and Communication Technology will also help provide students with the analytical, communication and technical skills they require to be active participants in an exciting and dynamic world.

Unique Contribution to the Qualifications Framework

These specifications have been developed to explore the use of ICT in a commercial setting. It differs therefore from other ICT specifications that focus primarily upon ICT use in a school context. It aims to develop practical capability through a series of teacher set practical tasks. Candidates will then demonstrate their ability to analyse, design and implement ICT systems for use in working environments. The specifications have been written to complement other forms of certification such as vocational and occupational unit accreditation and extend

learning to match the criteria for GCSE. The specifications also differ from GNVQ in terms of assessment and delivery.

These specifications are designed with flexibility in mind, and allow Centres to structure individual candidates' ICT experience for success. To this end the specifications allow candidates to follow their studies in a number of subject areas and to link their work to all of the Key Skills and a wide range of vocational qualifications and other awards such as CLAIT (Computer Literacy and Information Technology), IBT II (RSA Integrated Business Technology), Internet Technologies Stage 1 and CIT (Cambridge Information Technology modules). This enables Centres to ensure that all candidates are successful in achieving a single or multiple award appropriate to their individual abilities and strengths.

The specification content has been designed so that it can be delivered either by a team of specialists or by a single teacher/tutor. The specifications do not prescribe specific hardware or software. Candidate experience should build upon the resources available within the Centre and home. Centres may wish to link these specifications to other courses such as Business Studies.

Consideration should be given to the balance between 'hands-on' experience and the need for time away from the computer to develop ideas and research workplace contexts. Candidates can work individually or as a member of a team. Teamwork should be encouraged to ensure coverage of the set contexts and can be used to encourage interchange between the most intellectually interested candidates thus enabling them to achieve outcomes that are greater than could be achieved individually.

Opportunities for Progression

Today new and exciting career opportunities are available to those with the knowledge and skills to use Information and Communication Technology creatively, with whole industries emerging around the Information and Communication Technology revolution.

To meet career challenges, students must be self-reliant as well as good communicators and problem solvers. They must be able to apply their knowledge and skills in Information and Communication Technology in a discriminatory and ethical manner. Employers are looking for workers who are adaptable and committed to lifelong learning. It is hoped that the skills and knowledge covered by these specifications will provide students with the level of information technology they need to succeed in study of the subject at a higher level.

It is envisaged that the successful completion of a course of study leading to GCSE Information and Communication Technology will provide the basis for higher studies at Advanced GCE in Information and Communication Technology, Advanced VCE Information and Communication Technology, NVQ or in a related discipline.

Students may wish to utilise the knowledge and insight gained into Information and Communication Technology to inform and guide their use of such technologies in support of their academic, vocational and future personal development.

Citizenship

To be responsible members of society, students must be aware of the ever-growing impact of Information and Communication Technology. They need to reflect critically on the role of Information and Communication Technology in society and to consider its positive and negative effects. The study of Information and Communication Technology supports the development of skills and attitudes that increase students' abilities to address the social and ethical issues of technological advancements.

By insisting that candidates explore a commercial context, this specification encourages them to examine the economic systems that influence their lives and communities. The specifications also encourage them to be involved in the life of their school, neighbourhood and wider communities, developing a range of skills to help them do this.

1.2 CERTIFICATION TITLE

These specifications will be shown on a certificate as:

OCR GCSE in Information and Communication Technology B
OCR GCSE (Short Course) in Information and Communication Technology B

1.3 LEVEL OF QUALIFICATION

The regulatory authorities (QCA, ACCAC and CCEA) approve this qualification as part of the National Qualifications Framework.

Candidates who gain grades G to D will have achieved an award at Foundation Level.

Candidates who gain grades C to A* will have achieved an award at Intermediate Level.

Two GCSEs at grade G to D and two GCSEs at grade C to A* are equivalent to one three-unit GNVQ at Foundation and Intermediate Level respectively.

Part One

Four GCSEs at grade G to D and four GCSEs at grade C to A* are equivalent to one six-unit GNVQ at Foundation and Intermediate Level respectively.

1.4 RECOMMENDED PRIOR LEARNING

Candidates who are taking courses leading to this qualification at Key Stage 4 should normally have followed the corresponding Key Stage 3 programme of study within the National Curriculum.

Candidates entering this course should have achieved a general educational level equivalent to National Curriculum Level 3, or a distinction at Entry Level within the National Qualifications Framework.

1.5 PROGRESSION

GCSE qualifications are general qualifications that enable candidates to progress either directly to employment, or to proceed to further qualifications.

Many candidates who enter employment with one or more GCSEs would undertake training or further part-time study with the support of their employer.

Progression to further study from GCSE will depend upon the number and nature of the grades achieved. Broadly, candidates who are awarded mainly grades G to D at GCSE could either strengthen their base through further study of qualifications at Foundation Level within the National Qualifications Framework or could proceed to Intermediate level. Candidates who are awarded mainly grades C to A* at GCSE would be well prepared for study at Advanced Level within the National Qualifications Framework. The qualification also prepares candidates for undertaking an Advanced GCE in Computing or Information and Communication Technology, Advanced VCE Information and Communication Technology, or NVQ in a related discipline.

1.6 OVERLAP WITH OTHER QUALIFICATIONS

This qualification can be taken alongside CLAIT, IBT II, CIT and other IT user technique qualifications, focusing upon assessment of the use of IT by following prescribed instructions.

1.7 RESTRICTIONS ON CANDIDATE ENTRIES

Candidates who enter for this GCSE **may not** also enter for any other GCSE specification with the certification title Information and Communication Technology in the same examination series.

Candidates who enter for this GCSE **may** however also enter for any GNVQ specification with the certification title Information and Communication Technology in the same examination series. They **may** also enter for any NVQ qualification or the Entry Level Certificate in IT.

Every specification is assigned to a national classification code indicating the subject area to which it belongs.

Centres should be aware that candidates who enter for more than one GCSE qualification with the same classification code will have only one grade (the highest) counted for the purpose of the School and College Performance Tables.

The classification code for this specification is 2650.

1.8 KEY SKILLS PROXY

A grade in the range G-D in the full GCSE provides full exemption for the IT Key Skill at Level 1.

A grade in the range C-A* in the full GCSE provides full exemption for the IT Key Skill at Level 2.

A grade in the range G-D in the short course GCSE provides exemption for the external test and for one of the two specified purposes of the internal Key Skill component for the IT Key Skill at Level 1.

A grade in the range C-A* in the short course GCSE provides exemption for the external test and for one of the two specified purposes of the internal Key Skill component for the IT Key Skill at Level 2.

1.9 CODE OF PRACTICE REQUIREMENTS

These specifications will comply in every respect with the revised Code of Practice requirements for courses starting in September 2001.

1.10 STATUS IN WALES AND NORTHERN IRELAND

This specification has been approved by ACCAC for use by Centres in Wales and by CCEA for use by Centres in Northern Ireland.

Candidates in Wales and Northern Ireland should not be disadvantaged by terms, legislation or aspects of government that are different from those in England. Where such situations might occur, including in the external assessment, the terms used have been selected as neutral, so that candidates may apply whatever is appropriate to their own situation.

OCR will provide specifications, assessments and supporting documentation only in English.

Further information on the provision of assessment materials in Welsh and Irish may be obtained from the OCR Information Bureau (telephone 01223 553998).

1.11 TECHNICAL LANGUAGE

The world of ICT is fast moving and keeping abreast with current terminology presents a constant challenge. The terminology used within this specification and its associated assessments will comply with the definition and usage in the British Computer Society: A Glossary of Computer Terms.

2 Specification Aims

The course aims to provide candidates with opportunities to:

- Enjoy and exploit their use of ICT, focusing upon their own strengths and interests. Develop further as autonomous users of IT, broadening and consolidating knowledge, skills and understanding.
- Extend practical skills through the application of ICT to a range of contexts including those of industry, commerce and the community. Gain knowledge of terminology, techniques and methods that enable the effective use of ICT.
- Recognise the impact of new technologies on methods of working in the outside world, and on social, legal, economic, ethical and moral issues.
- Explore the use of ICT in a range of working environments and evaluate its potential when compared with other methods of working.
- Critically appraise information systems in order to develop an understanding of their capabilities and limitations.
- Learn how to solve a variety of work-related problems through the design and use of information systems and their underpinning principles and techniques.
- Prepare themselves for working and living in a technology driven society, and consider the social, economic, political, legal, ethical and moral issues and security needs for data surrounding the increasing use of ICT.
- Analyse, design, implement, test, evaluate and document information technology systems for use by others.

3 Assessment Objectives

Candidates should be able to demonstrate their ability to:

AO1 apply their knowledge, skills and understanding of ICT to a range of situations;

AO2 analyse, design, implement, test, evaluate and document information and communication systems for use by others and develop understanding of the wider applications and effects of ICT;

AO3 reflect critically on the way they and others use ICT;

AO4 discuss and review the impact of ICT applications in the wider world;

AO5 consider the social, economic, political, legal, ethical and moral issues and security needs for data that surround the increasing use of ICT.

4 Scheme of Assessment

4.1 TIERS

The scheme of assessment consists of two tiers: Foundation Tier and Higher Tier. Foundation Tier assesses grades G to C and Higher Tier assesses grades D to A*.

These specifications permit staged assessment and operationally use a modular model.

Units 2378 and 2379 have papers at both the Foundation Tier and the Higher Tier. It is not obligatory for candidates to enter units 2378 and 2379 at the same tier.

At certification there are no specific tiers of entry. A candidate's overall grade is determined by the uniform mark scores they achieve for the units.

4.2 UNITS

Unit	Entry code	Option Code	Title	Duration	Weighting
1	2377	F	ICT B: Paper 1F	1 hour	40% short 20% full
		H	ICT B: Paper 1H	1 hour	40% short 20% full
2	2378		ICT B: Coursework	Approximately 12 hours	60% short 30% full
3	2379		ICT B: Coursework Extension Task	Approximately 12 hours	30% full only
4	2380	F	ICT B: Paper 2F	1 hour	20% full only
		H	ICT B: Paper 2H	1 hour and 30 minutes	20% full only

Unit Entry Options

All candidates for units 2377 and 2380 must select a single option and be entered under the relevant option code.

Entry Code	Option Code	Components to be Taken	
2377	F	01	ICT B: Paper 1F
	H	02	ICT B: Paper 1H
2380	F	01	ICT B: Paper 2F
	H	02	ICT B: Paper 2H

Re-sit Rules

Candidates may re-sit any unit or option within a unit once only prior to certification. The better score will be used in the aggregation. Individual unit results will have a shelf-life limited only by that of the qualification.

4.3 UNIT DETAILS

Unit 1 (Externally set test)

Unit 1 assesses Sections 5.1 and 5.2 of the Specification Content and will be the external test used for assessing IT Key Skills. Candidates can undertake either of the Key Skill levels 1 or 2. By undertaking this test and completing the coursework set assignments, candidates will be awarded Key Skill accreditation alongside any GCSE Short or Full course award. The Key Skills external test has been used to simplify Centre administration and it enables Centres to apply an integrated approach to the assessment of IT at Key Stage 4, whether students are undertaking GCSE accreditation, or not. Whilst the Key Skills tests assess Pass and Fail, candidates entered for GCSE accreditation will be awarded a mark according to their performance for use at GCSE grading.

Unit 2 (Coursework component)

The set coursework task will focus upon the use of ICT in a business setting and will assess Sections 5.1 and 5.2 of the Specification Content. OCR will issue notes for guidance and include instructions to candidates and sample business information to enable candidates to undertake the coursework without needing to contact a relevant commercial organisation.

The unit may be undertaken as soon as the candidate has the necessary foundation knowledge outlined in the specification content. The coursework task should be taken in semi-controlled conditions, which means that students should log their time spent, both in school / college and at home, to complete the task. The twelve hours refers to the amount of time physically using a computer to produce evidence for the set activity. Research, investigation and practice time does not need to be recorded.

To reduce the need for unnecessary paper based evidence, the set task is assessed against specified criteria by means of a portfolio and presentation to a teacher / tutor. A sample task is included with this specification.

Candidates should explore the use of IT systems, data handling and processing and explore hardware and software requirements. Their findings should be presented to a teacher/tutor in the form of a portfolio and verbal presentation. The portfolio can consist of any appropriate form of evidence including the log of time spent, photographs, taped and video evidence, supported witness statements or paper-based evidence.

Unit 3 (Coursework - full course students only)

Full course students will undertake an additional coursework activity by selecting their own area of ICT use and developing an operational system complete with user documentation. This enables candidates to specialise in their chosen area. The unit will assess Sections 5.3, 5.4 and 5.5 of the Specification Content. Candidates will complete a log of time spent on their study, irrespective of where they have undertaken the work.

As for Unit 2, the twelve hours refers to time spent working on a computer only. It is envisaged that a candidate undertaking a study of, for example, computer graphics and its use in a commercial setting, will undertake studies in curriculum areas such as Art alongside any taught ICT lessons or work carried out at home.

To fulfil the examination criteria, candidates must investigate their chosen area in depth, from information needs to completed solution. As with Unit 2, the assessment objectives are measured through naturally occurring evidence and a presentation to a teacher / tutor or fellow students. For moderation purposes, the teacher / tutor's comments will be submitted as evidence of achievement alongside any paper evidence.

The portfolio can consist of any appropriate form of evidence including the log of time spent, photographs, taped and video evidence, supported witness statements or paper-based evidence. Where disk based evidence is more appropriate, for example a website or PowerPoint presentation, it must be readable in PC format using a web browser and standard software (e.g. Microsoft Office).

Unit 4 (Externally set test - full course students only)

Unit 4 is an examination paper in two tiers which will assess Sections 5.3, 5.4 and 5.5 of the Specification Content. Questions will be based on a commercial organisation and its use of ICT.

Notification and student support materials will made available to Centres twelve months prior to the examination.

It is anticipated that teachers / tutors will support students in their exploration of the set context. Centres may wish to allocate the case study as homework/self-supported study or holiday work. Candidates will be allowed to take any preparation work and research they complete into the examination room, but this work will not be assessed. This enables the Higher Tier paper to focus in depth upon the commercial use of ICT systems.

4.4 WEIGHTING OF ASSESSMENT OBJECTIVES

The relationship between the units and the assessment objectives of the scheme of assessment is shown in the following grid.

Full Course

	Objective AO1	Objective AO2	Objective AO3	Objective AO4	Objective AO5	Total
Unit 1	5%	5%	0%	5%	5%	**20%**
Unit 4	0%	0%	5%	10%	5%	**20%**
Units 2 and 3	25%	25%	5%	5%	0%	**60%**
Overall	30%	30%	10%	20%	10%	100

Short Course

	Objective AO1	Objective AO2	Objective AO3	Objective AO4	Objective AO5	Total
Unit 1	10%	10%	0%	10%	10%	**40%**
Unit 2	25%	25%	5%	5%	0%	**60%**
Overall	35%	35%	5%	15%	10%	100

4.5 CERTIFICATION

Short Course

Candidates must be entered for certification code 1095 to claim their overall grade for the Short Course.

Full Course

Candidates must be entered for certification code 1995 to claim their overall grade for the Full Course.

Candidates may take units 2377 and 2378 and enter GCSE Short Course certification then go on to take 2379 and 2380 and enter for GCSE Full Course certification. The results of units 2377 and 2378 that were encashed towards the Short Course may be re-used towards the Full Course.

Candidates may take all units at the end of their GCSE course in a linear fashion if desired.

Rules of Combination

Short Course

Candidates take units 2377 and 2378.

Full Course

Candidates take all four units.

Candidates are not required to take papers of the same tier in units 2377 and 2380.

4.6 UNIT AVAILABILITY

There are two assessment sessions each year, in January and June.

Units 2377 and 2378 will be first available in June 2002. No other units will be available in 2002.

In 2003 and subsequent years, availability will be as shown in the table below.

Unit	Title	January	June
2377	ICT B: Paper 1	✓	✓
2378	ICT B: Coursework	✓	✓
2379	ICT B: Coursework Extension Task	✓	✓
2380	ICT B: Paper 2	✓	✓

4.7 UNIFORM MARKS

The Full Course will be graded on a Uniform Mark Scale out of 400. The Short Course will be graded on a Uniform Mark Scale out of 200. The uniform mark thresholds for each of the units are shown below:

Units	2377/F	2377/H	2378	2379	2380/F	2380/H
Max. mark available	55	80	120	120	55	80
A	N/A	64	96	96	N/A	64
B	N/A	56	84	84	N/A	56
C	48	48	72	72	48	48
D	40	40	60	60	40	40
E	32	N/A	48	48	32	N/A
F	24	N/A	36	36	24	N/A
G	16	N/A	24	24	16	N/A

Note: A* is not awarded at unit level.

The overall uniform mark grade thresholds for the Full Course are as follows:

Max	A*	A	B	C	D	E	F	G	U
400	360	320	280	240	200	160	120	80	0

The overall uniform mark grade thresholds for the Short Course are as follows:

Max	A*	A	B	C	D	E	F	G	U
200	180	160	140	120	100	80	60	40	0

4.8 ASSESSMENT OF WRITTEN COMMUNICATION

Candidates are expected to:

- present relevant information in a form that suits its purpose;
- ensure text is legible and that spelling, punctuation and grammar are accurate, so that meaning is clear;
- use a suitable structure and style of writing.

Opportunity is given to use extended prose in the coursework component of these specifications. Therefore quality of written communication (QoWC) will be assessed in candidates' coursework. The QoWC will be assessed through the ability of candidates to communicate their thinking.

4.9 DIFFERENTIATION

Differentiation will be by outcome and task. The coursework task will contain alternative activities to suit differing abilities of student. Teachers / tutors should guide candidates towards appropriate activities according to their ability. The two-tier examination system also differentiates by task, with some overlapping questions. Marks will also be awarded for correct use of terminology and the appropriateness of solution to the set context.

4.10 AWARDING OF GRADES

The written papers will have a total weighting of 40% and internal assessment a weighting of 60%.

A candidate's mark for each of the units taken will be combined in the appropriate weighting to give the candidate's total mark for the specification. The candidate's grade will be determined by this total mark. Candidates achieving less than the minimum mark for grade G will be ungraded.

4.11 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified in Section 5; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the assessment may be balanced by better performance in others.

Grade F

- Candidates show a basic knowledge of familiar, simple information processing and communication applications and of the techniques and systems needed to support them. They show knowledge of some of the basic ICT terms and definitions; respond to needs and opportunities and evaluate ways of addressing these using information and communication systems.
- Candidates understand the need for precision in framing questions when finding, selecting and collecting information. They use ICT to explore, develop and interpret information. They develop, test and modify sets of instructions to automate processes and to make things happen and use computer models to detect patterns and relationships.
- Candidates use ICT to share, exchange and present work and demonstrate how it contributes to the development of their ideas and reflect on their use of ICT and show some knowledge of its use in the wider world.

Grade C

- Candidates show some knowledge and understanding of the range and scope of information processing and communication applications and of the techniques and systems, including the software and hardware sub-systems, needed to support them. They show a good understanding of basic ICT terms and definitions and are able to contrast and compare related ideas.
- Candidates identify needs and opportunities and analyse, design and evaluate appropriate ways of addressing these using information and communication systems. They use complex lines of enquiry to find and select information from a wide range of sources and explore, develop and interpret information to carry out a range of tasks and produce appropriate solutions to problems.
- Candidates show awareness of efficiency and economy in developing, testing and refining sets of instructions to automate processes and to make things happen, including responding to external events. They use computer models to investigate and test hypotheses.
- Candidates use ICT to share, exchange and present work, demonstrating a consideration of audience and purpose. They show awareness of the need to detect loss or corruption of information and to prevent the abuse of personal information and reflect critically on their use of ICT and consider the effects of its use in the wider world.

Grade A

- Candidates show a good knowledge and understanding of the range and scope of information processing and communication applications and of the techniques and systems, including the software and hardware sub-systems, needed to support them. They use ICT terms and definitions appropriately and are able to contrast and compare related ideas.
- Candidates apply general principles of information processing to given situations and abstract general principles from given examples. They identify a range of needs and opportunities, carry out systematic analysis, and design and evaluate effective ways of using information and communication systems. Candidates evaluate information sources, software packages and computer models, analysing the situations for which they were developed and assessing their efficiency, appropriateness and ease of use.
- Candidates use complex lines of enquiry to find and select information, using a wide range of sources. They explore, develop and interpret information to carry out a range of tasks and produce effective working solutions to a range of problems, including designing and implementing systems for others to use.
- Candidates show efficiency and economy in developing, testing and refining sets of instructions to automate processes and to make things happen, including responding to external events. They use and develop computer models to investigate and test hypotheses.
- Candidates use ICT to share, exchange and present work, demonstrating a clear sense of audience and purpose. They discuss methods of detecting the loss or corruption of information and describe steps that can minimise the likelihood of abuse of personal information, and reflect critically on their use of ICT, showing understanding of the effects of its use in the wider world.

SECTION C: SPECIFICATION CONTENT

5 Specification Content

There are five main areas of content that need to be addressed. Short Course candidates will focus upon 5.1 and 5.2, exploring core ICT knowledge and skills. Unit 1 – the IT Key Skills test will assess these areas. Students will then put this knowledge to use by undertaking Unit 2 the set coursework task. Full Course candidates will first undertake the same components and then extend this knowledge by exploring factuality and purpose alongside problem solving and applications and effects in more detail. These content areas will be assessed through the additional coursework component Unit 3 and the additional external test Unit 4.

Short and Full Course Candidates

5.1 Core knowledge underpinning the use of ICT

5.2 Practical skills and understanding relating to the use of ICT applications

5.3 First section only

Full Course Candidates

5.3 Functionality and purpose (both sections)

5.4 Problem solving using ICT

5.5 Applications of ICT and their effects

5.1 CORE KNOWLEDGE UNDERPINNING THE USE OF ICT

The assessment of core knowledge is undertaken as part of its application through coursework activities in Unit 2 and Unit 3, and examination papers Unit 1 and Unit 4. Candidates should therefore have sufficient knowledge and understanding to undertake their practical activities and understand an appropriate range of input and output devices in the context of any set research activity for Unit 2.

- Understand the main components of a computer system, including input and output devices. (For example Distinguish between hardware and software. Recognise the difference between portable and desk-top computers. Recognise the fundamental differences between mainframe and micro computer systems. Recognise a computer system as comprising processor, internal memory, input devices, output devices and backing storage. Understand the need for different input devices and the advantages and disadvantages of the range of devices indicated below, including suitability for different tasks. Knowledge of how devices are used (but not technical details about the way devices work) keyboards, pointing devices (including mouse, touch pad and tracker ball), video digitiser, remote control, joystick, magnetic strip, scanner, digital camera, sensor, midi instrument, sound sampler, OMR, OCR, MICR, bar-code reader, touch screens, graphics tablet.)
- Understand the need for, and functions of, the different types of software as specified in 5.2.
- Understand the differences between stand-alone and network systems, including advantages and disadvantages of each type of system.
- Understand the need for data security, accuracy and validity.

5.2 PRACTICAL SKILLS AND UNDERSTANDING RELATING TO THE USE OF ICT APPLICATIONS

The assessment of practical skills and understanding is undertaken only as part of their application through coursework activities in Unit 2 and Unit 3. Candidates should therefore have sufficient knowledge and understanding to undertake their practical activities. Where Centres wish to accredit IT user techniques alongside their use in context, they may wish to consider certification through CLAIT (Computer Literacy and Information Technology), IBT II (RSA Integrated Business Technology), Internet Technologies Stage 1 and CIT (Cambridge Information Technology modules). The content outlined below has been formatted in a style appropriate to integration with the CLAIT course.

- Word processing: including editing and text formatting, for example inserting, deleting, moving, replace command, changing margins, line spacing, justification, text positioning and styles, saving and printing.
- Databases: including an understanding of files, records, fields and how to sort and search.
- Spreadsheets: including spreadsheet contents, both numeric and text, using formulae and functions, rows, columns, cells and cell references, saving and printing.
- Computer art: including input devices and computer art actions such as entering shapes, copying items, changing fonts, changing size, filling shapes, flipping items, rotating items, using common drawing instruments, selecting colours, saving, photo editing and printing.
- Desktop publishing: including use of clipart, cropping, text (including fonts and kerning), use of templates, saving and printing.

- Graphical representation of data: including use of pie charts, bar charts, line graphs and the parts of graphs such as title, axis, scale and legend.
- The integration of sections from one application into another for example charts, tables, original graphics from paint programs into word processing files.
- Computer aided design: including inputs, processing and outputs, use of grids, views, how to save, print / plot designs.
- On-line communications: including how to log on, log off, use email and web browser, use of passwords, how to copy from on-line data.

5.3 FUNCTIONALITY AND PURPOSE

The assessment of functionality and purpose is undertaken as part of its application through coursework activities in Unit 2, Unit 3 and the terminal examination in Unit 4. Short course candidates will need to apply their knowledge outlined in sections 5.1 and 5.2 to a working solution of the problem outlined in the set coursework task. Full course candidates will extend this knowledge and design a system of their own choice. They will therefore have sufficient knowledge and understanding of the functionality and purpose of a wider range of hardware and software systems to undertake their practical activities.

- Short course candidates will apply their knowledge of common packages listed in 5.2 to the set task and, under guidance, will:
    - Identify problems and limitations of existing hardware and software use
    - Establish input and output requirements for the set coursework task
    - Establish the information required by the system and choose appropriate hardware and software;
    - Design and produce a workable solution to the given problem using existing hardware and software as outlined in 5.2;
    - Test their solution and identify further developments.
- Full course candidates should explore the functionality of hardware and software in given situations in greater depth in order to identify a reason for its selection based upon the capability of types of hardware and software to suit a specific purpose. They will select their own hardware and software in order to carry out this activity and they will need to:
    - Research a situation using, where appropriate, observation, interviews and/or questionnaires;
    - Identify problems with existing systems;
    - Establish input and output requirements;
    - Establish the information required by the system;
    - Establish the processing required;
    - Analyse the constraints in the system e.g. needs of the user, cost, time and problems caused by volume of data;
    - Consideration of changes and developments that may be required at a future date.

5.4 PROBLEM SOLVING USING ICT

The assessment of problem solving ability is undertaken as part of its application through coursework activities in Unit 2 and Unit 3. Candidates should therefore have sufficient knowledge and understanding to undertake their practical activities.

- Analyse, including researching a situation through observation, interviews and / or questionnaires, on-line research, textbooks, and any other published data.
- Draw up a design specification, including specifying requirements in terms of input, process and output and justify choice of software.
- Design, including means of data capture, processing and output and design database file structures, spreadsheet templates and document templates where relevant.
- Implement and test, including creation of a designed system, drawing up test data and testing in use.
- Evaluation, including checking of designed system against requirements, user questionnaire and making any necessary modifications and improvements or suggesting improvements where a lack of available hardware/software limits further development by the candidate.

5.5 APPLICATIONS OF ICT AND THEIR EFFECTS

The assessment of core knowledge is undertaken as part of its application through coursework activities in Unit 2 and Unit 3, and, for full course students only, in examination paper Unit 4. Candidates should therefore have sufficient knowledge and understanding to undertake their practical activities and understand an appropriate range of commercial uses outlined in the context of any set research activity for Unit 4 and coursework activities.

- Understand the effects of ICT use in commerce and industry, including effects on employment, effects on local and national economies, workplace location and working practices.
- Understand social, moral and ethical issues, particularly surrounding the abuse and misuse of information, data and image manipulation, together with the effects of changing living and working practices on individuals (retraining, deskilling, health issues etc).
- Understand the Data Protection Act and other methods of detecting and minimising abuse.
- Understand commercial use of ICT, including its use in e-commerce, finance and banking, retailing, libraries, industry, entertainment, travel, healthcare services, law enforcement, environmental monitoring and control.
- Understand the effects of ICT on global communication including issues of censorship.

SECTION D: COURSEWORK

6 Coursework Tasks

6.1 DELIVERY OF INTERNAL COURSEWORK UNITS

The course leading to these qualifications may be delivered through distinct teaching and learning activities.

Stage one: Students will need to be taught IT user techniques, through conventional approaches. These could be unit based and, if so desired, tied into other assessment schemes that recognise IT skills such as CLAIT (Computer Literacy and Information Technology), IBT II (RSA Integrated Business Technology), Internet Technologies Stage 1 and CIT (Cambridge Information Technology Units. Some of these focus upon assessment of students who are following prescribed instructions, which could be incorporated into Centres' own teaching materials. Centres may wish to focus upon specific software and provide candidates with skills-focused tasks.

The amount of time that an individual Centre gives to the development of basic knowledge and skills will depend to a large extent on the starting point of candidates. Centres may wish to allocate basic skill acquisition to other areas of the curriculum. For the purpose of the GCSE examination, skills will be tested only in the context of their application in the set activity and examination paper(s).

Stage two: Students tackle the assessed coursework task in Unit 2. This task is set by OCR. It focuses upon a business and its use of ICT. The task will be supported by OCR set worksheets and information. The task is marked by the teacher/tutor in line with guidance given by OCR, and will be externally moderated. The task aims to assess knowledge and skills in context.

Full Course candidates will extend the set task to suit their individual interests in Unit 3. In undertaking the activity, candidates will cover the requirements for IT Key Skills Levels 1 and 2. In exceptional circumstances, Centres may wish to extend coverage to include IT Key Skills Level 3.

Candidates may present their findings to their teacher and, where appropriate, an audience of their peers. Teacher comments may be submitted to OCR for moderation as evidence alongside the submission of a portfolio of evidence. This will enable teachers to extend the knowledge of other candidates and broaden the range of purposes and audiences.

The teacher / tutor will assess the candidate's knowledge and understanding in line with the mark scheme and their assessment undertaken during the presentation forms an essential part of the awarding of marks. It is anticipated that lower attaining candidates will present their findings to a more limited audience which will, in most cases, be the teacher only. Presentations can take any form from talking through their portfolio to an interactive multimedia presentation or web based presentation, if the context studied lends itself to this form of presentation. Full course students may wish to integrate the two coursework activities into a single presentation.

The set coursework task focuses primarily on assessment objectives A01 and A02. These assess ability to apply knowledge, skills and understanding when analysing, designing, implementing, testing and evaluating ICT systems.

Stage three: (Full course students only) Students work on the case study in preparation for the externally set examination papers. Documentation will be made available to Centres twelve months before the examination paper, and candidates should be supported in their investigation of the context set for the examination paper. Any preparation work carried out can be taken into the examination room.

Examples of appropriate tasks are given in Section 6.1.

6.2 EXEMPLAR COURSEWORK TASK - THE USE OF IT IN THE ENTERTAINMENT INDUSTRY

Guide for Tutors/Teachers.

General Information

This case study material aims to support and engage candidates and Centres by providing a clear focus, background information and resources to support Full and Short Course coursework components. The case study materials aim to provide full support for candidates and Centres that do not have access to first hand experiences. They also aim to guide and support teachers/tutors by providing the necessary resources to enable candidates to complete the set coursework tasks. Wherever possible candidates should supplement the case study materials through first hand experience. This can be achieved in a number of ways such as by visiting local cinemas, theatres or concert venues and through research using the Internet and more conventional media such as books, newspapers and magazines.

This case study support material focuses upon Big M cinemas. Where Centres replace the case study material for whole groups or individual candidates with a study of their own, they must provide candidates with sufficient information to explore the use of ICT in context and design appropriate solutions. Theatres and leisure centres will also provide a fertile ground for candidate research. Teachers/tutors may wish to lead a whole group discussion on the work of a cinema.

The case study material consists of a range of suggested outcomes alongside background information and a number of interviews with key personnel and cinema users. As the main aim of the case study is to provide a context for the assessed coursework units Centres may wish to use their own real or invented data.

Short and Full Course Candidates

Candidates should explore the use of IT systems, data handling and processing and explore hardware and software requirements. Their findings should be presented to a teacher/tutor in the form of a portfolio and verbal presentation. The case study should be 12 hours of logged computer time. Candidates will design and produce their own system or subsystem using commonly available software.

The system should cover one area of data handling and processing in the set context. The chosen area can be candidate or Centre selected. The portfolio can consist of any appropriate form of evidence including the log of time spent, photographs, taped and video evidence, supported witness statements or paper-based evidence. Where disk based evidence is more appropriate, for example a website or PowerPoint presentation, it must be readable in PC format using a web browser and standard software (e.g. Microsoft Office).

Full Course candidates only

Full course candidates will, in addition to the short course requirements, produce a further 12 hour logged unit consisting of an in-depth study into one element of ICT use within the set context. Their finished case-study should include user documentation. They will present their complete study to a teacher/tutor. The two coursework units will each gain marks in accordance with the criteria outlined in the specification.

Whilst there is no obligation to do so, Centres may wish to use a school or college production, concert or event to operationalise the case studies undertaken by full course students. This would allow candidates to produce and test their systems in context. Individual candidates could focus upon tickets, promotion, souvenir programmes, lighting, sound systems, set design, costings, cashflow and a wide range of other systems. Where candidates design and implement a system such as a computer controlled lighting system, witness statements can be included in the portfolio to assist the moderation process. Potential outcomes

Candidates could explore the use of IT and conventional non-IT solutions to the following. Please note this list is by no means exhaustive and can be supplemented to suit individual candidates' interests.

- Ticket booking systems
- Internet site
- Staff rotas
- Promotion materials
- On-line ticket systems
- Cash-flow
- Automatic lighting systems
- Central management system
- Accounts
- Scheduling
- User interfaces
- Alarms

Research Sheet 1

Background

Big M is a chain of multiplex cinemas. The cinema used in this case study is a multiplex nine-screen cinema. The nine theatres can hold up to 2000 paying customers.

Cinema 1 = 454 customers (450 seats plus 4 disabled wheelchair spaces)

Cinema 2 = 269 customers (265 seats plus 4 disabled wheelchair spaces)

Cinema 3 = 253 customers (249 seats plus 4 disabled wheelchair spaces)

Cinema 4 = 189 customers (185 seats plus 4 disabled wheelchair spaces)

Cinema 5 = 189 customers (185 seats plus 4 disabled wheelchair spaces)

Cinema 6 = 169 customers (165 seats plus 4 disabled wheelchair spaces)

Cinema 7 = 169 customers (165 seats plus 4 disabled wheelchair spaces)

Cinema 8 = 159 customers (155 seats plus 4 disabled wheelchair spaces)

Cinema 9 = 149 customers (145 seats plus 4 disabled wheelchair spaces)

The smallest theatre holds 149 paying customers. Each theatre also has places for 4 disabled people in wheelchairs. The timings of shows and prices are shown on research sheet 2

The cinema accepts bookings over the phone, by Internet and in person. Telephone bookings cost an additional 25p per booking to cover administration costs. The cinema accepts cash, cheque, credit card and debit card payments. Films change monthly.

Research Sheet 2

Films for week

AMERICAN PSYCHO (18)
Running time 101mins
3.00 5.20 7.30 9.45
THE TIGGER MOVIE (U)
Running time 77mins
10.40 12.30 2.30 4.30
ERIN BROCKOVICH (15)
Running time 133mins
3.15 6.30 9.15
MISSION TO MARS (PG)
Running time 116mins
6.15 8.30
SCREAM 3 (18)
Running time 116mins
Sat-Mon 7.10 9.40
THE STORY OF US (15)
Running time 95mins
2.00 4.15 6.30 8.45
TOY STORY 2 (U)
Running time 94mins
mat 11.00 1.15
MONKEY TROUBLE (U)
Running time
Sat mat 10.00
LOVE, HONOUR & OBEY (18)
Running time 98mins
Sat-Mon 7.00 9.15
SNOW DAY (PG)
Running time 89mins
11.20 1.20 3.20 5.10 7.00
ASTERIX & OBELIX TAKE ON CAESAR (PG)
Running time 110mins
mat 10.40 12.50
AMERICAN BEAUTY (18)
Running time 110mins
Mon-Thu 6.00 8.45
GALAXY QUEST (PG)
Running time 102mins
Fri-Sun 7.00 9.20
LAKE PLACID (15)
Running time 85mins
9.00
KEVIN & PERRY GO LARGE (15)
Running time 82mins
12.30 2.40 3.30 4.40 5.40 6.50 7.45 8.50 9.40
POKEMON - THE FIRST MOVIE (PG)
Running time 96mins
11.00 12.00 1.00 2.00 3.00 4.00 5.00

Research Sheet 3 Extra Details about the Cinema

Booking Line: 000 00000
C.E.A. Member: Member
Concessions/Discounts: Family Sat-Sun £14.60, Mon-Fri £12.80
Credit Cards Accepted: All Major cards
Disabled Facilities: Yes-toilets, lift to cafe bar
Enquiry Line: 000 0000
Film Club: Kids club £1.50 Sat. morning
Food Available: Cafe Bar, kiosk
Licensed Bar: Yes
Nearest Bus Station/Bus Numbers: 27, 28
Nearest Pub: Tavern
Nearest Restaurant: Frankie and Benny's
Nearest Train Station: Northampton
Number of Screens: Nine
Opening Times Friday: Varies
Opening Times Monday: Varies
Opening Times Saturday: Varies
Opening Times Sunday: Varies
Opening Times Thursday: Varies
Opening Times Tuesday: Varies
Opening Times Wednesday: Varies
Parking Facilities: Yes-1000 spaces
Private Functions: Yes-screen hire, children's parties-phone cinema for details
Seating Capacity Per Screen: Largest 454 Smallest 149-total 2000
Smoking Permitted: In foyer area only
Sound System: Dolby Digital
Ticket Prices - Adult: All Week £5.20
Ticket Prices - Child: All Week £3.40
Ticket Prices - OAP: Mon-Fri £3.70
Ticket Prices - Student: Mon-Fri £3.70

Research Sheet 4 Interviews with key personnel

Roger Jameson (Cinema goer)
I go to the cinema at least twice a week. Big M has recently started a monthly season ticket which is great. For £15 I can go as many times as I want during the month. I like to sit at the front. You have to book your ticket each time you go, but I just show my season ticket to the casher. Popular films can sometimes be a problem, as you have to queue for ages to get to the cash desk. I don't see why I can't just book my favourite seat in advance.

Jenny Smithe (Cashier)
I like working at Big M as I meet lots of people. We book all seats on a computer system. Everyone is given a specific seat. We used to just issue tickets and people would sit where they wanted. The computer system I use is not very friendly. With six theatres and a range of prices it is easy to make a mistake. The thing I hate most is telephone bookings. The phones always ring when I am dealing with a customer over the counter and people ring up without knowing the times of films or even what is on.

Zima Rehaad (General Manager)
Big M is a good company to work for. As long as 30% of seats are occupied the company is happy to let us get on with it. My main problem is staff turnover. I have to keep training new staff to use the booking system, which is not easy. As a manager it is important to keep up to date with cash flow and which films are most popular. I also have to try to ensure that young people do not get into films that are classified as being suitable for older clients. This is not easy as many of them look a lot older that they are. We try to keep up to date with our customer needs and market our regular customers with special promotions. The monthly season ticket has enabled us to build a database of regular customers and obtain addresses. We used to rely upon credit card bookings to get this information. If customers paid by cash we had no record of them or where they lived. Marketing is very costly due to the postage, design and printing costs. We try to advertise through leaflets and on-screen advertisements. We also use the local papers.

Xian Deport (Regional Manager)
I wish we could get more accurate details on cinemagoers and their preferences. We have very little data to plan future features. We have started to offer special promotions to attract 40+ adults back into the cinemas, but our main audience appears to be 12-18 year olds. I would like a centralised accounting and staff rota system. My main role is to keep costs down and maximise customer numbers. At the same time I have to ensure good value for money and quality. Not an easy job to perform.

Research Sheet 5 Interviews with key personnel

Dan Caprar (Projectionist)
Everything is digital now, even the lighting. We have digital fire alarms, smoke detectors, sprinklers, lights, exit doors - everything. Big M is a non-smoking cinema but people smoke in the toilets, sometimes causing problems with the detectors. The exit doors have push bars and sometimes people let their friends into the cinema without paying. We have alarms on the doors but insufficient staff to always get there in time to catch them. As for the films, you set the timings and everything is automatic. I used to prefer the old days when we would have a team of projectionists. I run all six cinemas myself. Automatic lighting, sound, projectors – great until something goes wrong. I carry around a pager and go to any trouble areas straight away.

Bill Constantino (Promotions Manager)

I have worked for Big M for 18 years. The existing IT system is capable of carrying out basic work processing but it struggles to complete the things I am now expected to do. I only work part time. The system takes so long to format documents and what I produce is often changed again when it is sent to the printers. We have no stylised format to work to. We send promotion material in hard copy to the printers. If I had the right facilities I could carry out the work to final draft myself, after all I know our customers better than any print company. I was at a conference recently where the presenters had used their own system to produce an excellent presentation. I would like to be able to do the same. We could also produce souvenir programs for special and popular films, if I had the right equipment.

Quinia Williams (Accounts Manager)

My job gets harder each day. The manager wants regular updates and I am supposed to predict future revenues. The latest hair brained idea is season tickets. We may get money up-front but we then have seat occupancy with no further revenue. I am supposed to match customers with particular screenings. The cashiers make lots of mistakes as it is and the season tickets make things harder still. Cash sales are also a problem. It takes ages to add up the money, especially when we have children's films in the school holidays. They raid their moneyboxes to pay for their tickets and I am left literally counting pennies. Each month I have to send accounts to the company head office in Glasgow. We send a paper copy by courier. My computer system is not up to the job. It keeps crashing and I am not on the internet. My screen is so small that I cannot see the whole spreadsheet at once. We share a very noisy and slow printer. Internet bookings have to be transferred manually onto my system. I have to back up my system onto floppy disks. It takes so long I usually don't bother.

Research Sheet 6 Interviews with key personnel

Rehan Wilson (Personnel Manager)

Although I have staff listings on computer we keep manual record cards on staff absence and work rotas. I spend at least two hours a day updating these cards. We have a big staff turnover especially on the cash desk and refreshments counter. We are always advertising for staff. Staff often just fail to turn up on time or sometimes to come to work at all. I only work part time now – saves costs. Almost all the staff are part-time. The refreshment counter has 16 part time staff working from 4 to 28 hours a week. The manager and accounts manager are full time, along with the projectionist. We have 8 part time cashiers working three on between 6.00pm to 9.45pm, less in the day. We have 14 attendants with four working at any one time on 4 hour shifts. Attendants check tickets, show people to their seats and clean the auditorium ready for the next screening. The trick is to time each screening to ensure you maximise staff use and have someone to check the tickets and serve refreshments without a queue. When someone is ill it is a nightmare, phoning around to get a replacement. When I am not at work the manager takes over my role. We all need better job descriptions that outline our roles more specifically, but I never get time to do them

Research Sheet 7 Cinema occupancy details last month

The cinema was busy last week with above average occupancy for most of the screenings. The figures below show the average occupancy over the week for each theatre.

Cinema 1 = 80%

Cinema 2 = 40%

Cinema 3 = 50%

Cinema 4 = 54%

Cinema 5 = 90%

Cinema 6 = 60%

Cinema 7 = 20%

Cinema 8 = 30%

Cinema 9 = 10%

Research Sheet 8 Staff List

Post	Name	Full/part time	Hours worked	Rate/hour	Annual salary
Manager	Roger Smith	FT	40		£16,000
Projectionist	John Thorn	FT	40		£13,800
Promotions Manager	Linda Smith	PT	20	£7.00	
Accounts Manager	Leigh Jones	FT	37.5		£14,000
Personnel Manager	Raj Singh	PT	30	£7.50	
Cashier	Matthew Everest	PT	18	£5.95	
Cashier	Nicola Turner	PT	18	£5.95	
Cashier	Sara Haywood	PT	40	£5.95	
Cashier	Simon Oswald	PT	40	£5.95	
Cashier	Lucy Honeybourne	PT	22	£5.95	
Cashier	Greg Thompson	PT	30	£5.95	
Cashier	Emma Godfrey	PT	32	£5.95	
Cashier	Luke Bailey	PT	28	£5.95	
Attendant	Melissa Johnson	PT	24	£5.50	
Attendant	Guy Robinson	PT	28	£5.50	
Attendant	Darren Reeve	PT	28	£5.50	
Attendant	David Harris	PT	32	£5.50	
Attendant	Mary-Jane Lewis	PT	36	£5.50	
Attendant	Harrison Wilson	PT	28	£5.50	
Attendant	Helen Parker	PT	36	£5.50	
Attendant	Ruth Kelleher	PT	36	£5.50	
Attendant	Ashley Simpson	PT	32	£5.50	
Attendant	Paul Baker	PT	16	£6.25	
Attendant	Anna Hartley	PT	16	£6.25	
Attendant	Hardeep Gupta	PT	28	£5.50	
Attendant	Laura Kelly	PT	32	£5.50	
Attendant	Thomas Payne	PT	36	£5.50	

SAMPLE ASSIGNMENTS, WITH SUGGESTED LOGICAL EXTENSIONS FOR FULL COURSE STUDENTS

The following assignments offer guidance only as to the types of activities that candidates might wish to undertake to fulfil the requirements of the coursework units. In completing the assignments, candidates must identify the data requirements, select the correct hardware and software and design a system that would be appropriate in the set context. Candidate portfolios will be assessed in accordance with the marking criteria for internally assessed work outlined in the specification. Candidates undertaking a Full Course will need to extend the assignment to meet the additional requirements for the course, the extension activities below highlight some potential outcomes as part of this extension work.

Assignment One

Design a full page advertisement for the cinema. Your advertisement should be web-based, be attractive and easy to update as films and timings change.

Extension

Web booking system / User documentation

Where candidates undertake work as part of a school production, the extension could be a workable web site for promotional and advertising purposes to be used by the school.

Assignment Two

Big M Cinemas are always advertising for staff. Draft an advertisement suitable for the local paper, advertising the post of cashier. Produce a draft job description and template that can be easily amended later to suit different applicants.

Extension

Database of skills required for staff in particular positions linked to staff records and individual competences

Where candidates undertake work as part of a school production, the extension could be a workable promotional and advertising system to be used by the school.

Assignment Three

Design a set of document templates to be used by the business administration centre of Big M Cinemas. These should include sample letters to successful and unsuccessful job applicants, letters of dismissal, contracts of employment, staff information sheets.

Extension

System for payment of weekly/monthly paid staff

Where candidates undertake work as part of a school production, the extension could be a workable system to be used to invite parents, governors and local businesses to the school.

Assignment Four

Design an automatic staff rota system that will ensure sufficient staff coverage on a weekly basis. Your system should print out a weekly rota list to be posted on the staff notice board.

Extension

Rota backup system for occasions when members of staff are on training, are off sick or leave the company, based on staff records held on database.

OR

Safety procedure for use in case of fire or other disaster, and in practice sessions.

Where candidates undertake work as part of a school production, the extension could be a workable front of house/sales rota to be used by the school.

Assignment Five

Design a booking system for use at the cash desks. Your system should ensure that the number of customers does not exceed the number of seats for any one screen. It should be easily amended for different films each week.

Extension

System that can also take Internet and telephone bookings, incorporating special offers such as season tickets.

Where candidates undertake work as part of a school production, the extension could be a workable ticket issuing and booking system to be used by the school.

Assignment Six

Produce a basic accounts package for the Accounts Manager of Big M, taking account of major outgoings such as staff wages, heat, light, cost of refreshments, etc and incomings such as takings at the cash desks and refreshment counters.

Extension

Produce a financial package that will assist the Manager of Big M Cinemas in predicting potential profits based on percentage occupancy of seats throughout the week.

Where candidates undertake work as part of a school production, the extension could be a workable financial system to be used by the school.

7 Regulations for Internal Assessment

7.1 MARKING CRITERIA FOR INTERNALLY ASSESSED WORK

Short Course candidates will submit a single project (Unit 2) of 12 hours duration based upon the set case study. Marks will be awarded according to the coursework mark scheme below. Further guidance will be provided with each coursework set task. Full Course candidates will submit an additional 12 hour project (Unit 3). This additional coursework project will be marked using the same criteria.

Each successive statement builds upon the previous statement and candidates must have completed the lower statement before they can be awarded the next mark range. Teachers / tutors should award marks according to coverage of the statement as a whole, for example, in choosing software, a candidate must have completed the selection of correct software to be awarded one mark. If he/she has also described why the hardware has been used, he/she will be awarded two marks. To gain three marks, he/she must also have described why software is used but have failed to state the purpose and characteristics for each.

AO1

Assessment Descriptors		Guidance in apportioning the marks
Choosing and Describing Applications		
Use common hardware and software correctly	1	In their work and through the description given during the presentation to the teacher the candidate shows basic knowledge of common hardware and software.
Use common hardware and software appropriately and accurately	2-3	Alongside the description above the candidate has used appropriate software accurately in his or her own work. To gain 3 marks they will explain how the outcome could have been achieved in different ways using other hardware and software.
Explain the differences between a number of common hardware and software tools.	4-5	Alongside the above descriptors the candidate will explain the different types of hardware and software they could have used and for 5 marks the benefits and drawbacks of each.
Using Hardware		
Choose the correct hardware for a given context.	1	The candidate has chosen the correct hardware for input and output purposes.
Describe why particular hardware is used.	2-3	The candidate can describe a number of input/output devices relevant to their work. To gain 3 marks they must be able to break down their system into a set of sub-systems and describe the function of each sub-system.
Explain how and why ICT is used in the specified context, stating the purpose and characteristics of the hardware used.	4-5	Alongside the above statements the candidate will describe the characteristics, drawbacks and benefits for of the chosen hardware. To achieve 5 marks they must contrast and compare alternative systems.

Using Software		
Use the correct software for a given context.	1	The candidate has chosen the correct software and can say why they have used it.
Describe why particular hardware is used.	2-3	The candidate can describe a number of software solutions relevant to their work. To gain 3 marks they must be able to break down their system into a set of sub-systems and describe the function of the software components.
Demonstrate an ability to load and use a range of software appropriate to the set task, with confidence.	4-5	Alongside the above statements the candidate will describe the characteristics, drawbacks and benefits for of the chosen software. To achieve 5 marks they must contrast and compare alternative software.
Inputting Data		
Demonstrate an ability to select, load and use data.	1	The candidate understands how to input data and demonstrates practical ability in using data.
Describe the effect of inaccurate data entry.	2-3	The candidate demonstrates an understanding of the importance of accuracy in data entry. To achieve 3 marks he/she knows how to check their data for accuracy.
Show an understanding of the means of communication between the user and specified context.	4-5	The candidate has an understanding of how the methods used to input data could affect data accuracy and speed. To achieve 5 marks the candidate will have considered the needs of the user and designed a system that reduces the possibility of data errors.
System Output		
Obtain and interpret relevant information from use of ICT	1	Candidates will understand how to use at least one type of output from a system.
Understand the range and scope of information / processes available through use of ICT	2-3	For two marks, candidates will be able to describe at least two types of output device and the advantages and disadvantages of using each. For three marks, they will be able to compare output devices, for example types of printers, types of screens and state where they will be used.
Optimise use of ICT applications, techniques and systems	4-5	To gain four marks, candidates will have optimised their own systems using appropriate output devices which meet the needs of the system they are designing. To gain five marks, candidates will be able to describe alternative outputs for their own system, and the benefits and drawbacks of each system.

AO2

Analysis		
Of appropriate ways of using ICT to address needs and opportunities	1	Candidate will demonstrate a basic working knowledge of an IT problem, and how to solve it.
Of methods used to gather, store, process and present information in the given context, demonstrating an understanding of the data process cycle.	2-3	Through interview, research and investigation, candidate will establish what potential users want. To gain three marks, candidates will identify what data will be input, what will be stored and what output the system will generate.
Systematic exploration of efficiency, appropriateness and ease of use	4-5	Alongside the above statements, to gain four marks, candidates will explore a range of potential systems, and investigate possible solutions. To gain five marks, candidates must match potential solutions to project aims and explore ease of use and appropriateness.
Design, Implementation, Testing		
Design and produce a system that addresses the needs and opportunities outlined in the set coursework task, using ICT	1-3	Candidate has arrived at a workable system to gain one mark. Two marks will be awarded for a basic but effective system. Three marks for a system that builds upon the analysis carried out.
Design and produce a system by breaking down design into a number of sub-tasks, demonstrating knowledge of input, process and output.	4-7	To gain four marks, candidate must have broken down the design problem into a number of sub-tasks, and designed a system to carry out these sub-tasks. To gain five marks, candidate will have documented his/her solution. For six marks candidate will also demonstrate a working knowledge of input, process and output, and for seven marks, candidate will have considered the accuracy of input data, how the data will be stored, and methods of checking accuracy.
Produce solutions in systematic way, evaluating each stage of development and making refinements as a result of evaluations.	8-10	To gain eight marks, candidates should demonstrate an ability to review each stage of their work and for nine marks, to build refinements into their design solution as a result of these reviews. For ten marks, candidate will demonstrate in discussions a critical opinion of every stage of his/her work.
Evaluation, Applications and Effects		
Comment on when it is better to use ICT and when it is more appropriate to use alternative methods.	1	Candidate will be able to comment on when it is best to use ICT.
Determine whether it is appropriate to use the designed information system, justifying any decisions made.	2-3	Candidates will demonstrate an understanding of the differences between ICT and other methods and, for three marks, will justify their own system by comparing it with other methods.
Describe the effects of your system in terms of changes in working practice	4-5	To gain four marks, candidates will explain the benefits and drawbacks of their system to people who will use the system and, for five marks, they will explain changes in working practices and the need for training.

Documentation		
Write up their findings	1	Simple documentation showing candidate's thinking.
Produce user documentation	2-3	For two marks, candidate will have produced instructions to help a user use their system. For three marks they will have included technical documentation.
Test user documentation and modify in accordance with findings to produce a document that could be used by a non-specialist in a given context.	4-5	For four marks, candidates will have tested user documentation. For five marks they will have refined documentation as a result of the tests.

AO3

Describe the benefits of using ICT in the set context	1	The candidate will be able to say how their system would benefit people in the set context.
Describe the benefits and drawbacks of using ICT in the set context	2-3	Candidates at this level will be able to outline the benefits and drawbacks of using their designed system. At 3 marks candidates will outline potential problems and show they have modified their own thinking in the light of experience.
Critically appraise their own use of ICT	4-5	At this level candidates will show they have gained much from their own experiences and be able to both critically appraise their systems and way of working. To achieve 5 marks they will outline the way forward and have a number of alternative strategies to improve the future performance of their systems.

AO4

Some knowledge of ICT use in the wider world	1	The candidate demonstrates a basic understanding of how ICT is used in the set context.
Consider effects of use of ICT in the wider world	2-3	The candidate demonstrates an ability to relate their own work to the set context and explain the differences between any system they use and a commercially used system. For 3 marks they will say what changes have occurred due to the use of ICT.
Show understanding of the effects of ICT use in the wider world	4-5	Candidates at this level will understand training requirements and changes in job profiles as a result of ICT. To achieve 5 marks they will contrast and compare alternative ways of working.

7.2 SUPERVISION AND AUTHENTICATION OF COURSEWORK

OCR expects teachers to supervise and guide candidates who are undertaking work that is internally assessed (e.g. coursework). The degree of teacher guidance in candidates' work will vary according to the kinds of work being undertaken. It should be remembered, however, that candidates are required to reach their own judgements and conclusions.

When supervising internally assessed tasks, teachers are expected to:

- Offer candidates advice about how best to approach such tasks.
- Exercise continuing supervision of work in order to monitor progress and to prevent plagiarism.
- Ensure that the work is completed in accordance with the specification requirements and can be assessed in accordance with the specified marking criteria and procedures.

Internally assessed work should be completed in the course of normal curriculum time and supervised and marked by the teacher. Some of the work, by its very nature, may be undertaken outside the Centre, e.g. research work, testing etc. As with all internally assessed work, the teacher must be satisfied that the work submitted for assessment is the candidate's own work.

7.3 PRODUCTION AND PRESENTATION OF INTERNALLY ASSESSED WORK

- Candidates must observe certain procedures in the production of internally assessed work.
- Any copied material must be suitably acknowledged.
- Quotations must be clearly marked and a reference provided wherever possible.
- Work submitted for moderation must be marked with the:
  Centre number
  Centre name
  candidate number
  candidate name
  specification code and title
  assignment title.
- All work submitted for moderation must be kept in a flat card file (not a ring binder).

7.4 MODERATION

All internally assessed work is marked by the teacher and internally standardised by the Centre. Marks are then submitted to OCR by a specified date, after which moderation takes place in accordance with OCR procedures. The purpose of moderation is to ensure that the standard of the award of marks for internally assessed work is the same for each Centre and that each teacher has applied the standards appropriately across the range of candidates within the Centre.

The sample of work which is presented to the Moderator for moderation must show how the marks have been awarded in relation to the marking criteria defined in Section 7.3.

Where it is not clear within a project folder, by the candidate's own presentation of work, where the marks have been awarded, annotation must be carried out by the person marking the work.

A separate cover sheet containing reference to the criteria applied and their location within the project is recommended.

7.5 MINIMUM REQUIREMENTS FOR INTERNALLY ASSESSED WORK

There should be clear evidence that work has been attempted and some work produced.

If a candidate submits no work for an internally assessed unit, the candidate should be indicated as being absent from that unit on the mark sheets submitted to OCR. If a candidate completes any work at all for an internally assessed unit, the work should be assessed according to the criteria and marking instructions and the appropriate mark awarded, which may be zero.

7.6 ASSESSMENT OF WRITTEN COMMUNICATION

The quality of candidates' written communication is assessed in the following units of these specifications.

Unit	Title
2	Coursework
3	Coursework Extension Task

Quality of written communication (QoWC) is not assessed on the written papers as the use of extended prose is not evidenced.

Teachers should first assess each candidate's work against the subject specific criteria given in the specifications and then award a total mark.

The criteria for assessment of the quality of written communication should then be applied, and marks added to the total according to the range given below. The Coursework Assessment Form will accommodate the marks awarded for QoWC.

Performance Description	Allocation of Marks Coursework
Below threshold performance.	0
This is the threshold performance. Candidates spell, punctuate and use the rules of grammar with some accuracy. They use a small range of specialist terms appropriately.	1
Candidates spell, punctuate and use the rules of grammar with some accuracy. They use a small range of specialist terms appropriately. They communicate some meaning in their work.	2
Candidates spell, punctuate and use the rules of grammar with considerable accuracy. They use a good range of specialist terms with facility. They communicate meaning in their work	3
Candidates spell, punctuate and use the rules of grammar with almost faultless accuracy, deploying a range of grammatical constructions. They use a wide range of specialist terms adeptly and with precision. They very clearly communicate the meaning of the work.	4

SECTION E: FURTHER INFORMATION

8 Opportunities for Teaching

8.1 CITIZENSHIP

From September 2002, the National Curriculum for England at Key Stage 4 includes a mandatory Programme of Study for Citizenship. Parts of this programme of study may be delivered through appropriate treatment of other subjects.

This section offers guidance on opportunities for developing knowledge, skills and understanding of citizenship issues during the course. The references in the Citizenship Programmes of Study refer to the letters provided in National Curriculum documentation.

Opportunities for Teaching Citizenship Issues During the Course	Citizenship Programme of Study
	Knowledge and Understanding about becoming Informed Citizens
In carrying out their investigation of the set commercial context, candidates should develop an understanding of	e How the economy functions, including the role of business and financial services.
When investigating the use of ICT in society, the data that is collected and stored on individuals, and its use, candidates should explore	h The rights and responsibilities of consumers, employers and employees.
	Developing Skills of Enquiry and Communication
In looking at the changes in working practices whilst researching the effects of IT on people's lives, candidates should	a Research topical social issues by analysing information from different sources, including ICT based sources.
When presenting their research and design solutions to the teacher and other members of the group, candidates should	b Express, justify and defend orally, and in writing, a personal opinion about such issues.
In investigating the set commercial context, candidates should	c Contribute to a group and exploratory class discussions and take part in formal debates.

	Developing Skills of Participation and Responsible Action
When candidates are looking at working practices using ICT and non ICT methods of working, and how this has affected people in working environments, they should	a Use their imagination to consider other people's experiences and be able to think about, express, explain and critically evaluate views that are not their own.
When undertaking group work to research the set activities and when exploring the design of their own systems and the effects of these systems on others, candidates should	b Negotiate, decide and take part responsibility in school based activities.
When working with other members of their group, contacting commercial organisations and discussing their findings with teachers, peers, parents and members of the community, candidates should be encouraged to	c Reflect on the process of participating

8.2 SPIRITUAL, MORAL, ETHICAL, SOCIAL AND CULTURAL ISSUES

Candidates should be taught to reflect critically on their own and others' use of ICT and to identify social, moral, spiritual, cultural and ethical issues related to its use. This can be achieved by exploring the ways that new technology has affected the way people work, live and play. Candidates can explore the ways that new technology directly affects the quality of people's lives by comparing the use of ICT and contrasting its use with non-IT solutions.

8.3 HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

OCR 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 these specifications and associated specimen assessments.

Candidates will be encouraged to consider Health and Safety issues associated with the use of ICT and the responsibilities of employers and employees will be considered through the case studies. In particular, students should have the opportunity to learn about the health implications that accompany the extended or repeated use of computer systems, including injuries arising from repetitious activities; the importance of good posture; the necessity of taking regular breaks; the general need for ICT.

In undertaking their case study candidates will explore issues such as the effects of working environment in relation to their individual body's requirements, comprehending details such as seating height, VDU situation and orientation, and the positioning of keyboards and other input devices. Additionally, through using bulky, electrical ICT equipment, students will become aware of the importance of keeping a safe, orderly working environment.

8.4 THE EUROPEAN DIMENSION

OCR has taken account of the 1988 Resolution of the Council of the European Community in preparing these specifications and associated specimen assessments. European examples will be used where appropriate in the delivery of the subject content. Relevant European legislation is identified within the specification where applicable.

Candidates should be made aware of the environmental implications of the adoption and use of ICT, including the use of scarce resources, energy requirements, changes in working practices, communications and transport. Candidates need to recognize the importance of ICT in establishing links between the countries of Europe and the growth of ICT networks across Europe and the rest of the world.

9 Key Skills

Key Skills are central to successful employment and underpin future success in learning independently. Whilst they are certificated separately, the Key Skills guidance for this qualification has been designed to support the teaching and learning of the content.

The following matrix indicates those Key Skills for which opportunities for at least some coverage of the relevant Key Skills unit exist.

	Communication	Application of Number	IT	Working with Others	Improving Own Learning and Performance	Problem Solving
Level 1	✓	✓	✓	✓	✓	✓
Level 2	✓	✓	✓	✓	✓	✓
Level 3 (Some Students)			✓			

Detailed opportunities for generating Key Skills evidence through this specification are posted on the OCR website. A summary document for Key Skills co-ordinators showing ways in which opportunities for Key Skills arise within GCSE courses will be published during 2001.

A grade in the range G-D in the full GCSE provides full exemption for the IT Key Skill at Level 1.

A grade in the range C-A* in the full exemption provides full exemption for the IT Key Skill at Level 2.

A grade in the range G-D in the short course GCSE provides exemption for the external test and for one of the two specified purposes of the internal Key Skill component for the IT Key Skill at Level 1.

A grade in the range C-A* in the short course GCSE provides exemption for the eternal test and for one of the two specified purposes of the internal Key Skill component f for the IT Key Skill at Level 2.

10 Reading List

At the time of publication of these specifications, OCR is preparing a GCSE Information and Communication Technology (B) textbook to accompany this course. It will be endorsed by OCR for use with this specification subject to OCR's quality assurance procedure before final publication. For further details contact the IT team at OCR Birmingham office.

GCSE ICT (B) (Cushing. S)	Heinemann	ISBN (pending)	S F

The following list of suggested titles is not intended to be exhaustive nor does inclusion on the list constitute a recommendation of the suitability of the book for the specification. The list details the texts available at the time of the preparation of the specification (May 2000). The possibility exists that more up to date texts which have been prepared for the revised GCSE specifications may become available.

Teachers will need to use their professional judgement in assessing the suitability of the material contained in this list.

Title	Publisher	ISBN	Code
Student Handbook for IT (Gareth Williams)	Pearson	1 85749 396 6	S F
This is IT 1 (Ithurralde & Ramkaran)	Hodder and Stoughton	0 340 73809X	S
This is IT 2 (Ithurralde & Ramkaran)	Hodder and Stoughton	0 340 701536	S F
Information Systems for You (Stephen Doyle)	Stanley Thornes	0 748 72809 0	S F

Key: **F - Full course**
S – Short course

GCSE IT Companion two
(disk based 'textbook' with on-line quizzes, worksheets and marking schemes)
P Meakin
Cedar Education
14 Newfield Court
Lymm
Cheshire
WA13 9QU
01925 75 9583
www.cedar.u-net.com

11 Arrangements for Candidates with Special Needs

For candidates who are unable to complete the full assessment or whose performance may be adversely affected through no fault of their own, teachers should consult the *Inter-Board Regulations and Guidance Booklet for Special Arrangements and Special Consideration*. In such cases, advice should be sought from the OCR Special Requirements team (tel. 01223 552505) as early as possible during the course.

12 Support and In-service Training for Teachers

To support teachers using this specification, OCR will make the following materials and services available:

- a full programme of in-service training meetings arranged by the Training and Customer Support Division (telephone 01223 552950).
- specimen question papers and mark schemes, available from the Publications department (tel 0870 870 6622, fax 0870 870 6621).
- past question papers and mark schemes, available from the Publications department (tel 0870 870 6622, fax 0870 870 6621).
- coursework guidance materials.
- examples of marked work.
- written advice on coursework proposals.
- a report on the examination, compiled by senior examining personnel after each examination session.
- individual feedback to each Centre on the moderation of internally assessed work.
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