

**International Certificate
in Computer Studies
Syllabus &
Student Handbook
V2.2**

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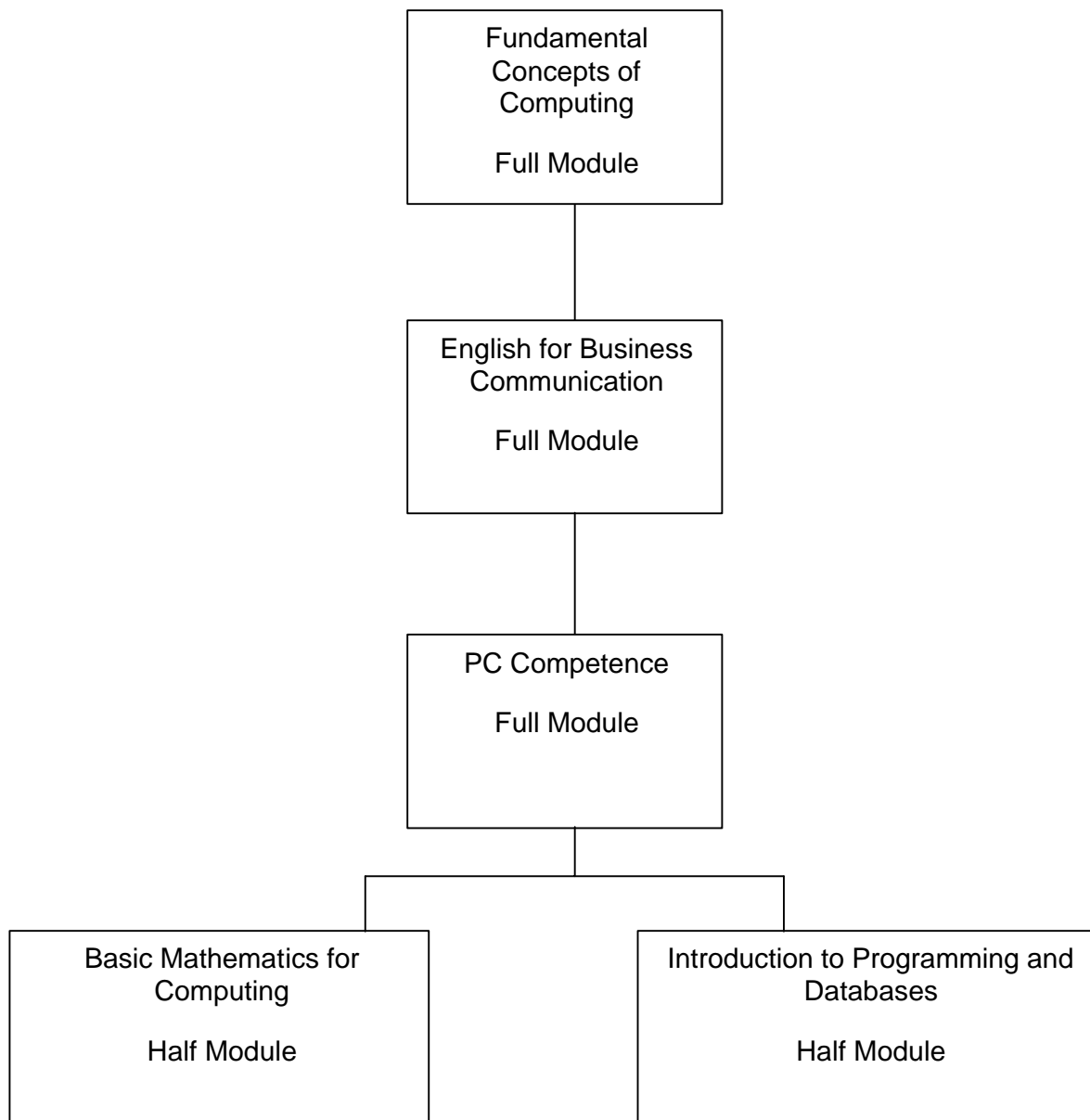
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ICCS STRUCTURE



Hours: All full modules are approximately 100 hours in duration

All half modules are approximately 50 hours in duration

1. Introduction

This is a foundation course in IT, designed to introduce candidates to a broad area of topics relating to the use of IT in business.

Centres will be able to register candidates any time of year and carry out the assessments at their convenience making this programme very flexible. NCC Education will provide assessments guidelines.

Candidates will be awarded either a pass or fail.

The programme can be run as a full time course, approximately 6-months, part time or as individual modules.

Only training organisations accredited by NCC Education Limited (NCC Education) may offer this Certificate.

The objectives of the course are to:

- Deliver well trained people with effective and practical business oriented IT skills capable of making a real contribution in the work place.
- Deliver well trained people capable of taking the NCC International Diploma in Computer Studies (IDCS), which is the 1st year course in a series of one-year programmes offered by NCC Education, which when combined, offer candidates a BSc (Hons) degree.
- Establish an international standard of high quality training leading to universally recognised qualifications.

The qualification consists of 5 taught modules.

2. Modules

2.1 Fundamental Concepts of Computing

Aim: to give candidates a broad but secure foundation in the fundamental concepts of computing so that they will be able to make effective and knowledgeable judgements about the use of standard computer systems in business.

2.2 English for Business Communication

Aim: to teach candidates how to use and adapt standard business English to suit the specific needs of the fields of computing and information technology. Also to bridge a candidates level of English language to a standard where they would have the ability to cope with the level required on the International Diploma in Computer Studies.

2.3 PC Competence

Aim: to promote and encourage computer literacy, to ensure all computer users understand best practices and the advantages of using a personal computer, to increase the productivity of all employees who need to use computers in their workplace.

2.4 Basic Mathematics for Computing

Aim: to give candidates an understanding of the mathematical concepts underlying many computer-related processes and developments and to encourage them to understand how to apply mathematical skills to common problems.

2.5 Introduction to Programming and Databases

Aim: to give candidates an understanding of the fundamental concepts of computer programming and the use of databases. Candidates should also gain skills in the use of structured program design techniques and be able to create and use simple databases.

2.6 Weighting

There is no overall pass mark for the ICCS and all modules carry an equal weighting in that to gain the ICCS qualification candidates have to pass all FIVE modules. The following table shows the pass marks for each module.

Module Title	Automated Exam Pass Mark	Paper based Exam Pass Mark
Fundamental Concepts of Computing	60%	
English for Business Communication	60%	
PC Competence	60%	
Basic Mathematics for Computing		50%
Introduction to Programming and Databases	50%	

3. Assessment

3.1 Introduction

All assessments will be carried out locally using the guidelines provided by NCC Education.

Full details on the rules and regulations governing assessments can be found in the ICCS support pack, available from Qualifications and Support, NCC Education, The Towers, Towers Business Park, Wilmslow Road, Manchester, M20 2EZ.

Four of the modules will have a computer-based examination. All centres will be issued with a CD-ROM containing the software and question database. The Maths module will be tested via a multiple choice written paper. The centres will prepare the Maths paper using a databank of questions supplied by NCC Education.

NCC Education undertakes to update the question database in the future.

3.2 Fundamental Concepts of Computing

This module must be taken under examination conditions. It is accepted that not all candidates will be able to take the examination at the same time due to resource restrictions.

Examination

This will be computer based and supplied by NCC Education. It will consist of 60 multiple-choice questions and candidates will be given up to 1 hour 15 minutes to complete it.

Pass

To pass the examination candidates must score a minimum of 60%.

3.3 English for Business Communication

This module must be taken under examination conditions. It is accepted that not all candidates will be able to take the examination at the same time due to resource restrictions.

Examination

This will be computer based and supplied by NCC Education. It will consist of 60 multiple-choice questions and candidates will be given up to 1 hour 15 minutes to complete it.

Pass

To pass the examination candidates must score a minimum of 60%.

3.4 PC Competence

This module must be taken under examination conditions. It is accepted that not all candidates will be able to take the examination at the same time due to resource restrictions.

Examination

It will consist of one assessment, which will be computer based and supplied by NCC Education. It will consist of 60 multiple-choice questions and candidates will be given up to 1 hour 15 minutes to complete the assessment.

Pass

To pass the examination candidates must score a minimum of 60%.

3.5 Basic Mathematics for Computing

This module must be taken under examination conditions. This is a closed book examination.

Examination

This is a paper-based examination. It will consist of 40 multiple-choice questions and candidates will be given up to 1 hour to complete it.

Pass

To pass the examination candidates must score a minimum of 50%.

3.6 Introduction to Programming and Databases

This module must be taken under examination conditions. It is accepted that not all candidates will be able to take the examination at the same time due to resource restrictions.

Examination

This will be computer based and supplied by NCC Education. It will consist of 40 multiple-choice questions and candidates will be given up to 1 hour to complete it.

Pass

To pass the examination candidates must score a minimum of 50%.

4. Fundamental Concepts of Computing

4.1 Introduction

The purpose of Fundamental Concepts of Computing is to give candidates a broad but secure foundation in the fundamental concepts of computing so that they will be able to make effective and knowledgeable judgements about the use of standard computer systems in business.

Candidates will be able to use the most common types of Information Technology hardware and software so that they will, on completion of the course, be able to contribute effectively in a typical environment where desktop based IT is used extensively.

The skills and understanding developed in this course must be sound enough to support good computing practice on any of the popular desktop computing environments, but particular emphasis must be placed on MS-DOS, Windows and Windows NT.

Candidates must be able to distinguish between the hardware and software components of computers systems and understand how network communications can be used to link computer systems. They must understand why security is an important issue and how some simple measures can be applied to achieve more secure operations.

Candidates must be able to recognise the major trends in IT employment and how a career path can be planned.

All aspects of this syllabus must be explored through practical work, in class, in private study and in coursework assignments so that the candidate is trained to meet the demands of the real world.

Above all, candidates must learn that Information Technology, in all its forms, is the servant of the users' needs and must offer cost-effective ways of meeting those needs.

4.2 General Objectives

Upon successful completion of this module the candidate will be able to demonstrate a satisfactory practical performance and understanding in the following topic areas:

- A. Computer Systems in a Business Environment.
- B. Computer Hardware.
- C. Data and Data Structures.
- D. Software.
- E. Data Communications and the Technology used.
- F. Computer Security.
- G. The Desktop
- H. Trends and Careers in IT.

4.3 Specific Objectives

Objective A: Computer Systems in a Business Environment.

- A1. Describe why Information Systems are important in business.
- A2. Define systems and computer systems.
- A3. Identify and describe the major applications of computers in business.
- A4. Identify and describe information needs in organisations.
- A5. Understand the function of an organisation's database.
- A6. Understand the need for data communication.
- A7. Identify and describe the personal information needs of users.

Objective B: Computer Hardware.

- B1. Describe the history of computing and show how this has produced the current types of computers used in business.
- B2. Describe the categories of computer currently available, and the functions, characteristics and applications of each.
- B3. Describe the typical structure of a business computer and identify the major physical components.

- B4. Describe the functions and management of the control unit, arithmetic and logic unit and memory.
- B5. Describe the characteristics, functions and applications of current input and output devices.
- B6. Describe the applications, relative speeds and capacities of current secondary storage devices.
- B7. Describe the types of hardware used and facilities available to support data communications.

Objective C: Data and Data Structures.

- C1. Describe the types of data used in typical business applications.
- C2. Describe the internal representation of data and the character codes.
- C3. Describe the range of modern methods of data capture and data capture devices associated with commercial and industrial applications.
- C4. Describe why it is necessary to develop effective methods for managing and accessing large volumes of data.
- C5. Explain and define the terms field, record and file formats.
- C6. Explain the principal methods of file organisation and manipulation.
- C7. Explain current methods for maintaining accuracy, security and control of data, including recovery procedures.
- C8. Define database and database management.

Objective D: Software.

- D1. Define and distinguish between the different types of software.
- D2. Describe the different models of data processing, including batch, on-line, real-time, networked and distributed systems.
- D3. Describe the main functions of operating systems.
- D4. Describe the stages of development and implementation of data processing applications.
- D5. Show that it is necessary to translate source code.
- D6. Describe the characteristics of low level, high-level and 'fourth generation' languages.
- D7. Describe how a Graphical User Interface can be used to present a user-friendly 'front end' to an application.

Objective E: Data Communications and the Technology used.

- E1. Define the major types of data communication networks.
- E2. Understand the characteristics of Local Area Networks (LAN).
- E3. Recognise the application of some popular LAN technology.
- E4. Understand the characteristics of Wide Area Networks (WAN).
- E5. Recognise the application of hardware associated with WAN.
- E6. Describe the types of hardware used and facilities available to support data communications.
- E7. Recognise the Internet as a means of data communication.

Objective F: Computer Security.

- F1. Define computer security.
- F2. Understand the types of threats.
- F3. Understand why security is important in business.
- F4. Define Data Protection as an essential safeguard.
- F5. Explain current methods for maintaining accuracy, security and control of data.
- F6. Understand the need to ensure continuity of processing in the event of hardware or software failure.
- F7. Describe the need for an IT disaster recovery plan.
- F8. Explain the need for standards and documentation in computing.

Objective G: The Desktop

- G1. Recognise the principal features of MS-DOS, Windows and Windows NT and understand how operating system facilities are represented in these platforms.
- G2. Compare MS-DOS, Windows and Windows NT with other OS, especially UNIX.
- G3. Understand the use and operation of a Windows based computer system, including program execution.
- G4. Carry out the physical maintenance of a desktop computer system.
- G5. Carry out simple file maintenance tasks on a desktop computer system.

Objective H: Trends and Careers in IT.

- H1. Construct an organisational chart of IT personnel in a typical medium sized business.
- H2. Describe the skills and qualifications required by the different categories of staff in Information Technology.
- H3. Describe the duties of, and lines of communication between the different classes of responsibility and specialisation in an Information Technology department.
- H4. Describe some typical career paths and levels of training within Information Technology. These must include current trends towards teleworking, help desks, IT functions in smaller businesses and network administration.
- H5. Describe, using as a minimum the categories defined in H4, the likely career trends for entrants to the IT industry.

4.4 Practical Work

A certificate level course such as this must focus strongly on equipping candidates with practical skills that will enable them to compete effectively for employment, as well as providing a bridge to more academic courses. This module must not be taught as a theory course with a bit of practical work to add flavour but should be thought of from the beginning as essentially 'understanding through doing'.

Coursework must test the candidate's practical skills and through this work, their understanding of the background theory.

The tasks listed below represent a minimum level of practical ability and are not intended to set upper limits to the variety of practical tasks set.

4.5 A List of Practical Skills

Every successful ICCS candidate should be able, at least, to:

- Study a simple example of a real-life user's information needs and suggest a configuration and the appropriate software that would meet that need.
- Identify the different parts of a desktop computer system's hardware.
- Use some office software packages for simple tasks such as spreadsheet calculations and simple reports.
- Format, store, backup and copy diskettes; set up directories and subdirectories and carry out simple file maintenance.
- Access files on a different host on a Local Area Network.

- Work and communicate effectively as a member of a team solving practical computing problems.
- Understand how to take necessary precautions to avoid data loss and corruption, including the detection of viruses.

4.6 Notes

No prior detailed technical knowledge of computers should be assumed, however, it is reasonable to expect that candidates have encountered a PC prior to starting the course. The essential purpose is that candidates must be given a good understanding of the information processing needs of a variety of users and their organisations and how those needs dictate good computing practice.

That foundation of good practice can only be achieved if the teaching is based upon the candidates' experiencing the practical application of contemporary technology to real problems.

This alone can give the candidate a broad knowledge of the fundamentals of good computing and understanding which is transferable between the various manufacturers' hardware.

Candidates must be encouraged to demonstrate practical skills, e.g. in the use of software packages and in the selection of hardware configurations, matched to particular users' needs.

Although the objectives are listed individually for the convenience of arranging the teaching, no objective should be considered in isolation. Candidates must be taught to see the module as a single subject, rather than a collection of separate topics. The exercises and coursework which are set must be practical wherever possible and must reflect the unity of the subject.

4.7 Teaching Times

The suggested breakdown of teaching times for the objectives is:

Objective	% of total time
A	10
B	15
C	15
D	15
E	10
F	10
G	15
H	10
Total	100

4.8 Student Resources

Fundamental Concepts of Computing



Published by NCC Education

ISBN: 190234 -337-9

Aim: To give candidates a broad but secure foundation in the fundamental concepts of computing so that they will be able to make effective and knowledgeable judgements about the use of standard computer systems in business

Topics include:

- Computer Systems in a Business Environment
- Computer Hardware
- Data and Data Structures

- Software
- Data Communications and the Technology used
- Computer Security
- The Desktop
- Trends and Careers in IT

NCC Education supplies all accredited training partners with an electronic copy of this book.

4.9 Tutor Resources

NCC supplies all accredited training partners with a tutor guide to support the syllabus and the textbook.

5. English for Business Communication

5.1 Introduction

English for Business Communication provides a foundation in the use of the English language for candidates preparing to take the International Diploma in Computer Studies. Candidates' will learn how to use and adapt standard business English to suit the specific needs of the fields of Computing and Information Technology.

All assessments will reflect the practical objectives of this module.

5.2 General Objectives

Upon successful completion of this module the candidate will be able to demonstrate a satisfactory practical performance and understanding in the following topic areas:

- Introduction to Communication.
- Narrative Writing.
- Descriptive Writing.
- Instructions and Communications.
- Communication and Information Technology.
- Study Techniques.

5.3 Specific Objectives

Objective A: Introduction to Communication.

- A1. Describe what constitutes communication.
- A2. Identify and select an appropriate mode of communication.
- A3. Apply the use of open and closed questions correctly.
- A4. Produce a questionnaire that is based on investigation and feedback of people's requirements.

Objective B: Narrative Writing.

- B1. Describe and apply narrative writing.
- B2. Use writing frames effectively.
- B3. Produce a linear account of events.

B4. Increase English vocabulary by various methods.

B5. Extract information from documents effectively.

B6. Produce a summary of a document accurately.

Objective C: Descriptive Writing

C1. Use features to help in the building of sentences.

C2. Understand what simple, compound and complex sentences are, and how to use them.

C3. Understand what jargon is and why it is used.

C4. Dissect example of jargon and construct jargon.

C5. Use clear and simple English effectively.

Objective D: Instructions and Communications.

D1. Understand how to breakdown a task into steps.

D2. Understand how to write and issue documentation.

D3. Understand what is meant by the chain of command.

D4. Know the importance of maintaining and using the chain of command.

D5. Understand how to get guidance and instruction.

Objective E: Communication and Information Technology.

E1. Understand the different elements that make up the Internet.

E2. Understand the Internet as an information and a communication system.

E3. Know how to access information through the Internet.

E4. Know how to receive, write and send e-mail.

E5. Understand the language conventions applying to e-mail.

E6. Understand the advantages and disadvantage of the use of e-mail for business.

Objective F: Study Techniques.

F1. Understand the importance of taking ownership for your own studying.

F2. Apply effective self-study techniques.

- F3. Analyse examination questions.
- F4. Use external sources of information effectively.

5.4 A List of Practical Skills

Every successful ICCS candidate should be able, at least, to:

- Differentiate between and choose the correct communication method for the various given sets of circumstances.
- Use closed and open questions successfully.
- Produce an investigative questionnaire and use the responses as a feedback tool.
- Produce a written report using standardised headings and sub headings.
- Produce a summary of a report.
- Produce extracts.
- Apply a bibliography and an index.
- Differentiate between idiomatic and standard English usage.
- Describe why a simple prose style enhances meaning.
- Produce simple descriptions of the features, functions and benefits of entities.
- Understand how and why “jargon” is used to describe processes and be able to deduce some meaning from unknown “jargon”.
- Issue and receive instructions for tasks to be carried out.
- Produce a questionnaire to elicit information.
- Produce a report on an interview.
- Produce a process report, which combines two sources of information.
- Organising notes and study time.
- Analyse and answering examination questions effectively.
- Use reference sources effectively.

5.5 Teaching Times

The suggested breakdown of teaching times for the objectives is:

Objective	% of mark
A	5
B	15
C	15
D	15
E	30
F	20
TOTAL	100

5.6 Student Resources



English for Business Communication

NCC Education

Published by NCC Education

ISBN: 1-90234-338-7

Aim: To enable candidates to use and adapt standard business English to suit the specific needs of computing and Information Technology

Topics include:

- Introduction to Communication
- Narrative Writing
- Descriptive Writing
- Instructions and Communications
- Information and Communications Technology
- Study Techniques

NCC Education supplies all accredited training partners with an electronic copy of this book.

5.7 Tutor Resources

NCC supplies all accredited training partners with a tutor guide to support the syllabus and the textbook

6. PC Competence

6.1 Introduction

The PC Competence module is designed to cover the key concepts of computing, its practical applications and their use in the workplace and society in general. It is broken down into 4 units.

6.2 General Objectives

Upon successful completion of PC Competence candidates will be able to demonstrate a satisfactory practical performance and understanding in the following topic areas:

- Word Processing.
- Spreadsheets.
- Presentations.
- Information and Communications.

6.3 Specific Objectives

Objective A: Word Processing.

Getting Started

- A1. Open a word processing application.
- A2. Open an existing document - make some modifications and save.
- A3. Open several documents.
- A4. Create a new document and save.
- A5. Save an existing document onto the hard disk or onto a diskette.
- A6. Close the document.
- A7. Use application Help functions.
- A8. Close the word processing application.
- A9. Adjust Basic Settings - Change page display modes, use the page view magnification tool/zoom tool, modify the toolbar display.
- A10. Save an existing document under another file format: txt file, Rich Text Format (rtf), document template, software type or version number, etc.
- A11. Save a document in a format appropriate for posting to a Web Site.

Basic Operations

- A12. Insert a character, word, sentence, or small amount of text.
- A13. Use the undo command.
- A14. Insert a new paragraph.
- A15. Insert special characters/symbols and a page break into a document.
- A16. Use integrated software.
- A17. Select character, word, sentence, paragraph or entire document.
- A18. Use Copy and Paste tools to duplicate text within a document. Use Cut and Paste tools to move text within a document.
- A19. Copy and move text between active documents.
- A20. Delete text.
- A21. Use the search command for a word or phrase within a document.
- A22. Use the replace command for a word or phrase within a document.

Formatting

- A23. Text formatting - Change fonts: sizes and types, use italics, emboldening, underlining, apply different colours to text, use alignment and justification options.
- A24. Use hyphenation where appropriate.
- A25. Copy the formatting from a selected piece of text.
- A26. General formatting - Use and set tabs: left, right, centre, decimal, add borders to a document, and use lists (bulleted and numbered).
- A27. Choose an appropriate document template for use in a specified task and work within a template on a specified task.

Finishing a Document

- A28. Apply existing styles to a document.
- A29. Insert page numbering in a document.
- A30. Add headers and footers to a document. Insert date, author, page numbers etc. in headers and footers and apply basic text format options in headers and footers.
- A31. Use a spell-check program and make changes where necessary. Use Grammar tool and make changes where necessary.

A32. Modify document setup: page orientation, page size etc. Modify document margins.

Printing

A33. Preview a document.

A34. Use basic print options and print a document from an installed printer.

More Advanced Features

A35. Create standard tables.

A36. Change cell attributes: formatting, cell size, colour etc. Insert and delete columns and rows. Add borders to a table.

A37. Use the automatic Table Formatting tool.

A38. Add an image or graphics file to a document.

A39. Add autoshapes to a document: change line colours, change autoshape fill colours.

A40. Move images or drawn objects within a document. Re-size a graphic.

A41. Import a spreadsheet, an image file, chart or graph into a document.

A42. Create a mailing list or other data file for use in a Mailmerge. Merge a mailing list with a letter document or a label document.

Objective B: Spreadsheets.

Getting Started

B1. Open a spreadsheet application.

B2. Open an existing spreadsheet - make some modifications and save.

B3. Open several spreadsheets.

B4. Create a new spreadsheet and save. Close the spreadsheet. Close the application.

B5. Save an existing spreadsheet onto the hard disk or a diskette.

B4. Use application Help functions.

B5. Adjust Basic Settings - Change spreadsheet view mode, use the page view magnification tool/zoom tool, modify toolbar display.

B6. Save an existing spreadsheet under another file format: txt file, document template, software type or version number, etc

B7. Save a document in a format appropriate for posting to a Web Site

Basic Operations

B8. Insert Data: numbers in a cell, text in a cell, symbols or special characters in a cell.

B9. Enter simple formulae in a cell.

B10. Use the Undo command.

B11. Select a cell or range of adjacent or non-adjacent cells. Select a row or column. Select a range of adjacent or non-adjacent rows or columns.

B12. Use the Copy and Paste tools to duplicate cell contents in another part of a worksheet.

B13. Use the Cut and Paste tools to move cell contents within worksheet.

B14. Move cell contents between active worksheets and active spreadsheets, delete cell contents in a selected cell range.

B15. Use the Search command for specified cell content.

B16. Use the Replace command for specified cell content.

B17. Insert rows and columns, modify column width and row height, delete selected rows or columns.

B18. Sort data in ascending or descending numeric and alphabetic order.

Formulae and Functions

B19. Use basic arithmetic and logical formulae in a spreadsheet addition, subtraction, multiplication, division.

B20. Recognise standard error messages associated with formulae.

B21. Use the Autofill tool/Copy Handle tool to copy or increment data entries.

B22. Understand and use relative cell referencing in formulae or functions.

B23. Understand and use absolute cell referencing in formulae or functions.

B24. Work with Functions – sum and average.

Formatting

- B25. Format cells to display different number styles: number of decimal places, number of zeros after the decimal point, with or without commas to indicate thousands.
- B26. Format cells to display different date styles, currency symbols, numbers as percentages.
- B27. Change text size. Format text: bold, italic, font type. Change text font colour. Adjust text orientation.
- B28. Centre and align cell contents in a selected cell range: left and right; top and bottom, add border effects to a selected cell range.
- B29. Use a spell-check program and make changes where necessary.
- B30. Document Setup - Modify document margin settings, adjust document setup to fit one page, add a Header and Footer, change document orientation - portrait or landscape, page size etc.

Printing

- B31. Use basic print options.
- B32. Preview a spreadsheet.
- B33. Print a spreadsheet or a worksheet.
- B34. Print part of a worksheet or a pre-defined cell range.

More Advanced Features

- B35. Import objects into a spreadsheet: image files, graphs, text files etc. Move and resize imported objects within a spreadsheet.
- B36. Produce different types of charts and graphs from spreadsheet figures to analyse data, e.g. pie charts, column charts, bar charts.
- B37. Edit or modify a chart or graph: add a title or label, change the scale. Modify the colours in the chart or graph.
- B38. Change the chart type. Move and delete charts or graphs.

Objective C: Presentations.

Getting Started

- C1. First Steps with Presentation Tools - Open a presentation application, open an existing presentation document - make some modifications and save. Close the presentation document.

- C2. Save an existing presentation onto the hard disk or a diskette.
- C3. Use application Help functions.
- C4. Close the presentation document, close the presentation application.
- C5. Adjust Basic Settings - Change display modes, use page view magnification tool/zoom tool, modify toolbar display.
- C6. Save an existing presentation under another file format: Rich Text Format (rtf), presentation template, image file format, software type or version number etc.
- C8. Save a presentation in a format appropriate for posting to a Web Site.

Basic Operations

- C9. Create a new presentation.
- C10. Choose an appropriate automatic slide layout format for individual slides e.g. title slide, organisational chart, chart and text, bulleted lists, etc.
- C11. Modify slide layout, add text, add an image from an image library.
- C12. Use a master slide.
- C13. Use the Copy and Paste tools to duplicate text within the presentation or active presentations. Use the Cut and Paste tools to move text within the presentation or active presentations. Delete selected text.
- C14. Use the Copy and Paste tools to duplicate an image within the presentation or active presentations. Use the Cut and Paste tools to move an image within the presentation or active presentations. Delete an image.
- C15. Use the Copy and Paste tools to duplicate a slide within the presentation or active presentations. Use the Cut and Paste tools to move a slide within the presentation or active presentations. Re-order slides within the presentation. Delete a slide/slides within the presentation.

Formatting

- C16. Format Text - Change font type, apply italics, bold, underlining and case changes to text.
- C17. Apply shadow to text, use sub-script and super-script, apply different colours to text font, centre text, align text: left and right, top and bottom. Adjust line spacing. Change the type of bullets/numbers in a list.
- C18. Re-size and move text box within a slide. Set line weights, style and colours of a text box.

Graphics and Charts

- C19. Add different types of line to a slide. Move lines in a slide. Change line colour/modify line width.
- C20. Add various forms of shape; boxes, circles, etc. to a slide. Add a free drawn line. Rotate or flip a drawn object in a slide.
- C21. Change the attributes of the shape; colour in the shape, change the line type. Apply shadow to a shape.
- C22. Create an organisational chart. Modify the structure of an organisational chart.
- C23. Create different kinds of charts; bar chart, pie chart, etc.
- C24. Import images from other files, re-size and move an image in a slide.
- C25. Import other objects: text, spreadsheet, table, chart or graphic files to slide. Copy an imported object to a master slide. Add border effects to an object.

Printing and Distribution

- C26. Select appropriate output format for slide presentation; overhead, handout, 35 mm slides, on-screen show.
- C27. Change slide orientation: landscape or portrait.
- C28. Prepare for Distribution - Add notes for the presenter to slides, number the slides. Use spell-check program and make changes where necessary.
- C29. Preview the presentation document in slide, outline, slide sorter, or notes view. Print slides in various views and output formats.

Slide Show Effects

- C30. Add preset animation effects to slides. Change preset animation effects.
- C31. Add slide transition effects

View a Slide Show

- C32. Start a slide show on any slide.
- C33. Use on-screen navigation tools.
- C34. Hide slides.

Objective D: Information and Communications

Getting Started with the Internet

- D1. Open a Web browsing application.
- D2. Understand the make-up and structure of a Web address.
- D3. Display a given Web page.
- D4. Change the Web browser Home Page/Start page.
- D5. Save a Web page as a file
- D6. Use application Help functions.
- D7. Close the Web browsing application
- D8. Adjust Basic Settings - Change view/display modes. Modify toolbar display. Display images on Web page. Do not load image files onto Web page.

Web Navigation

- D9. Open a URL (Uniform Resource Locator) and collect data.
- D10. Open a hyperlink or an image link and return to original page.
- D11. Browse a specified site and collect data.

Web Searching

- D12. Using a Search Engine - Define search requirements. Use a key word in a search. Use common logical operators in a search.
- D13. Printing - Modify page setup options. Print a Web page using basic print options. Present a search report as a printed document.

Bookmarks

- D14. Know what bookmarks are and how to bookmark a Web page, open a bookmarked Web page, and add Web pages to bookmark folder.

Getting Started with Electronic Mail

- D15. Open an electronic mail application. Open a mail inbox for a specified user. Open a mail message. Close the electronic mail application.
- D16. Use application Help functions.
- D17. Adjust Basic Settings - Change display modes. Modify toolbar display.

Messaging

- D18. Create a new message.
- D19. Insert a mail address in the 'mailto' field, insert a title in the subject field.
- D20. Add an auto-signature to a message.
- D21. Use a spell checking tool if available.
- D22. Attach a file to a message.
- D23. Send a message with high/low priority.
- D24. Use Copy and Paste tools to duplicate text within a message or to another active message.
- D25. Use Cut and Paste tools to insert text from another source into a message.
- D26. Delete text in a message and delete a file attachment from a message.
- D27. Read a Message - Collect or open mail. Mark/highlight a message in a mail folder. Use the mail bin. Open and save a file attachment.
- D28. Reply to a Message - Use Reply to Sender function. Use Reply to All function. Reply with original message insertion. Reply without original message insertion. Forward a message.

Addressing

- D29. Using Address Books - Add a mail address to an address list. Delete a mail address from an address list. Create a new address list/distribution list. Update an address book from incoming mail.
- D30. Messages to Several Addresses - Reply to a message using a distribution list. Copy a message to another address. Use Blind Copy tool.

Message Management

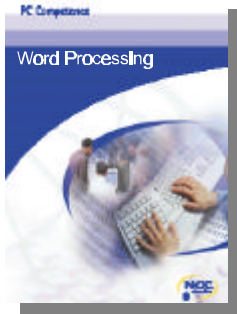
- D31. Organising Messages - Search for a message. Create a new mail folder. Delete a message. Move messages to a new mail folder. Sort messages by name, by subject, by date, etc

6.4 Teaching Times

The suggested breakdown of teaching times for the objectives is:

Objective	% of mark
A	25
B	25
C	25
E	25
TOTAL	100

6.5 Students Resources



PC Competence - Word Processing

Published by NCC Education

ISBN: 1-90234-354-9

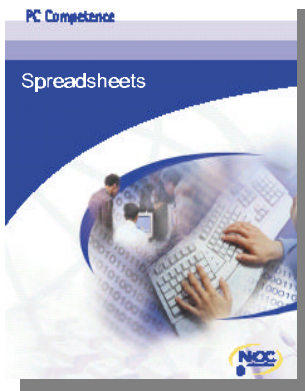
Aim: To give candidates a broad understanding of word processing, the book is designed to cover the key concepts of Microsoft Word 2000, its practical application and their use in the work place.

Topics include:

- Basics of Word
- Text and Printing
- Viewing Modes
- Formatting Text
- Assigning Paragraph Formats
- Applying Page Layouts
- Working with Multiple Documents
- Proofing Documents

- Working with Tabs and Tables
- Using Templates and Wizards
- Creating Mail Merge
- Working with Styles
- Working with Pictures and Objects

NCC Education supplies all accredited training partners with a electronic copy of this book.



PC Competence - Spreadsheets

Published by NCC Education

ISBN: 1-90234-355-7

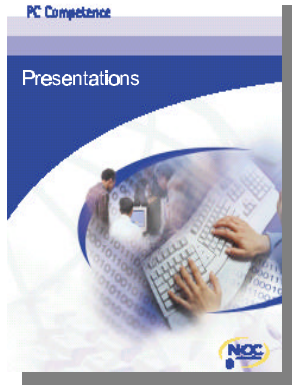
Aim: To give candidates a broad understanding of spreadsheets, the book is designed to cover the key concepts of Microsoft Excel 2000, its practical application and their use in the work place.

Topics include;

- The Excel Window
- Creating a Worksheet
- Working with Formulae
- Understanding File Procedures
- Moving, Copying and Sorting Data
- Functions and Absolute Cell Referencing
- Enhancing a Spreadsheet
- Printing
- Manipulating Multiple Sheets/Files
- Working with Charts, Images and Other Objects

NCC Education supplies all accredited training partners with an electronic copy of this book.

PC Competence - Presentations



Published by NCC Education

ISBN: 1-90234-356-5

Aim: To give candidates a broad understanding of presentations, the book is designed to cover the key concepts of Microsoft PowerPoint 2000, its practical application and their use in the work place.

Topics include;

- PowerPoint Basics
- Understanding File Procedures
- Working with Text
- Working with Bullets and Numbering
- Working with Tables
- Working with Organisational Charts
- Charting
- Using the Drawing Tool
- Working with Pictures and Other Objects
- Using PowerPoint Views
- Running a Slide Show
- Printing

NCC Education supplies all accredited training providers with an electronic copy of this book.



PC Competence – Information and Communications

Published by NCC Education

ISBN: 1-90234-357-3

Aim: To give candidates a broad understanding of the Internet and the use of e-mail in a business environment, the book is designed to cover the key concepts of Microsoft Explorer 5, and Microsoft Outlook 2000 its practical application and their use in the work place.

Topics include:

- Introduction to the Internet
- Introducing Internet Explorer 5
- Web Searching and Printing
- Outlook's Menu and Toolbars
- Understanding Outlook 2000
- Working with Electronic Mail
- Using a Personal Address Book
- Maintaining Mail
- Understanding Folders

NCC Education supplies all accredited training partners with an electronic copy of this book.

6.6 Tutor Resources

NCC supplies all accredited training partners with tutor guides to support the syllabus and the textbooks.

7. Basic Maths for Computing (½module)

7.1 Introduction

The purpose of Basic Maths for Computing is to give candidates an understanding of the mathematical concepts underlying many computer-related processes and developments and to encourage them to understand how to apply mathematical skills to common problems.

7.2 General Objectives

Upon successful completion of Basic Maths for Computing candidates will be able to demonstrate a satisfactory practical performance and understanding in the following topic areas:

- A. Basic Arithmetic.
- B. Fractions and Percentages.
- C. Algebraic Techniques.
- D. Number Based Systems.
- E. Graphs.
- F. Data Types and Structures.

7.3 Specific Objectives

Objective A: Basic Arithmetic

- A1. Understand the order of precedence for arithmetic operations.
- A2. Understand and use the commutative, associative and distributive laws.
- A3. Understand the concept of a number line and perform arithmetic operations on signed numbers.
- A4. Understand the operation of the identity in arithmetic operations.
- A5. Sort values on different criteria.

Objective B: Fractions and Percentages.

- B1. Understand what is meant by a fraction and be able to reduce fractions to their simplest form.
- B2. Understand mixed numbers and vulgar fractions.

- B3. Be able to perform arithmetic operations on fractions.
- B4. Understand the format of decimal numbers and what is meant by 'place
- B5. Be able to round numbers and express in terms of significant figures.
- B6. Be able to convert between fractions and decimals.
- B7. Understand the relationship between percentages and fractions and between percentages and decimals.
- B8. Apply fractions, decimals and percentages in every day situations.

Objective C: Algebraic Techniques.

- C1. Understand the use of symbols in place of numbers.
- C2. Undertake simple algebraic calculations.
- C3. Rearrange formulae to change the subject of an expression.
- C4. Simplify algebraic expressions using a number of different techniques.
- C5. Solve simple linear equations in one variable.

Objective D: Number Based Systems.

- D1. Understand the concept of 'place value' in number systems.
- D2. Calculate the place values for different number bases.
- D3. Appreciate the use of fractions in different number bases.
- D4. Understand the Binary, Octal and Hexadecimal number systems.
- D5. Convert between Denary (Base 10) and the Binary, Octal and Hexadecimal systems.

Objective E: Graphs.

- E1. Understand the terminology of graph plotting.
- E2. Understand the representation of plotted shapes using matrix.
- E3. Be able to draw xy graphs for straight lines and simple curves.
- E4. Be able to construct other types of graph.

Objective F: Data Types and Structures.

- F1. Appreciate which are the fundamental simple data structures.

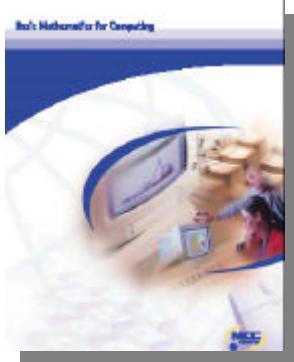
- F2. Recognise the various simple data structures.
- F3. Differentiate between valid and invalid values for simple data structures.
- F4. Understand that there are more complex data structures.
- F5. Recognise some of the various compound data structures.
- F6. Perform simple operations on some of the compound data structures.

7.4 Teaching Times

The suggested breakdown of teaching times for the objectives is:

Objective	% of total time
A	15
B	20
C	25
D	10
E	20
F	10
Total	100

7.5 Student Resources



Basic Mathematics for Computing

NCC Education

Published by NCC Education

ISBN: 1-90234-339-5

Aim : To give candidates an understanding of the mathematical concepts underlying many computer related processes and developments and to encourage them to understand how to apply mathematical skills to common problems.

Topics include:

- Basic Arithmetic
- Percentages and Fractions
- Algebraic Techniques
- Number Based Systems
- Graphs
- Data Types and Structure

NCC Education supplies all accredited training partners with an electronic copy of this book.

7.6 Tutor Resources

NCC supplies all accredited training partners with a tutor guide to support the syllabus and the textbook.

8. Introduction to Programming & Databases (1/2 module)

8.1 Introduction

The purpose of Introduction to Programming & Databases is to give candidates an understanding of the fundamental concepts of computer programming and the use of databases. Candidates should also gain skills in the use of structured program design techniques and be able to create and use simple databases.

8.2 General Objectives

Upon successful completion of Introduction to Programming & Databases candidates will be able to demonstrate a satisfactory practical performance and understanding in the following topic areas:

- A. Basic Concepts of Programming.
- B. Programming Languages.
- C. Structured Design Method.
- D. Pseudo-Code.
- E. Basic Concepts of Databases.
- F. Query Languages.
- G. Constructing a Database.

8.3 Specific Objectives

Objective A: Basic Concepts of Programming.

- A1. Understand the features common to all computer programs and the differences between the serial and parallel processing of data and instructions.
- A2. Understand the simple data types and data structures used in programming.
- A3. Be able to describe the steps involved in program execution.
- A4. Understand and explain the stages of program development, testing and documentation.

Objective B: Programming Languages.

- B1. Appreciate the evolution of programming languages and their classification into generations.
- B2. Understand the differences between and the uses of different types of languages.
- B3. Understand and explain the need for translation programs and the differences between different translators.

Objective C: Structured Design Method.

- C1. Understand the need for structured design methods.
- C2. Understand the different approaches to structured design.
- C3. Be able to produce a structured design to solve simple problems.

Objective D: Pseudo-Code.

- D1. Understand the link between structured design and pseudo-code.
- D2. Understand how to represent basic constructs in pseudo-code.
- D3. Be able to produce pseudo-code to match a given design.

Objective E: Basic Concepts of Databases.

- E1. Appreciate what is meant by data and hence what constitutes a database.
- E2. Understand the concepts of field types, keys and validation and verification of data.
- E3. Understand the differences between flat files and databases and appreciate the advantages and disadvantages of each.
- E4. Understand what is meant by a Database Management System (DBMS).
- E5. Appreciate what is meant by a 'relational' database.

Objective F: Query Languages.

- F1. Appreciate the need to obtain information from a database in a variety of ways.
- F2. Use a query language to develop queries for simple scenarios.
- F3. Appreciate the desirability of input forms and output reports.

Objective G: Constructing a Database.

- G1. Be able to produce a data model for a simple scenario.
- G2. Be able to produce the structure of the database tables including any required validation.
- G3. Be able to design and produce input forms and output reports.
- G4. Be able to enter data and execute queries.

8.4 Note

A certificate level course such as this must focus strongly on equipping candidates with practical skills that will enable them to compete effectively for employment, as well as providing a bridge to more academic courses. This module must not be taught as a theory course with a bit of practical work to add flavour but should be thought of from the beginning as essentially 'understanding through doing'.

Coursework must test the candidate's practical skills and through this work, their understanding of the background theory.

The tasks listed below represent a minimum level of practical ability and are not intended to set upper limits to the variety of practical tasks set.

8.5 A List of Practical Skills

Every successful ICCS candidate should be able, at least, to:

- Be able to describe the steps involved in program execution.
- Be able to produce a structured design to solve simple problems.
- Be able to produce pseudo-code to match a given design.
- Use a query language to develop queries for simple scenarios.
- Be able to produce a data model for a simple scenario.
- Be able to produce the structure of the database tables including any required validation.
- Be able to design and produce input forms and output reports.

- Be able to enter data and execute queries.

8.6 Teaching Times

The suggested breakdown of teaching times for the objectives is:

Objective	% of total time
A	7.5
B	7.5
C	20
D	15
E	15
F	10
G	25
Total	100

8.7 Students Resources



Introduction to Programming and Databases.

NCC Education

Published by NCC Education

ISBN: 1-90234-340-9

Aim: To give candidates an understanding of the fundamental concepts of computer programming and the use of databases.

Topics include:

- Basic Concepts of Programming.
- Programming Languages.
- Structured Design Method.
- Pseudo-Code.

- Basic Concepts of Databases.
- Query Languages.
- Constructing a Database.

NCC Education supplies all accredited training partners with an electronic copy of this book.

8.8 Tutor Resources

NCC supplies all accredited training partners with a tutor guide to support the syllabus and the textbook.