



**INTERNATIONAL ADVANCED DIPLOMA IN
COMPUTER STUDIES (IADCS)
PROGRAMME HANDBOOK
2008**

Modification History

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CONTENTS

1.	An Introduction to NCC Education	7
2.	Programme of Study	7
2.1	International Advanced Diploma in Computer Studies (IADCS)	7
2.2	Programme Aims.....	7
2.3	Programme Learning Outcomes	8
2.4	Programme Duration	8
2.5	Entry Requirements.....	8
2.6	Programme Modules	9
3.	Assessment	11
3.1	Global Assignments	11
3.2	Global Examinations	11
3.3	Local Examinations	11
3.4	Assessment Dates	12
4.	Student Performance and Results	12
4.1	Module Performance	12
4.1.1	Modules Assessed by Examination and Global Assignment.....	13
4.2	Notification of Results.....	13
4.3	Programme-Level Certification.....	13
4.3.1	Record of Achievement	13
4.3.2	Certificate	14
5.	Programme Resources	14
5.1	CD Contents.....	14
5.2	Textbooks.....	15
6.	Student Regulations and Policies	15
6.1	Assignment and Examination Irregularities	15
6.2	Student Appeals	15
6.3	Special Circumstances.....	16
6.4	Extensions to Assignment Deadlines	16
6.5	Suspension of Studies.....	16
6.6	Withdrawal from Programme.....	16
7.	Programme Module Outlines	17
7.1	Reading Programme Module Outlines	17
7.1.1	Structure	17
7.1.2	Introduction.....	17
7.1.3	Learning Outcomes	17
7.1.4	Indicative Content.....	17
7.1.5	Required Textbook	17
7.1.6	Prerequisite Modules.....	18
7.2	Database Design and Development.....	19
7.2.1	Structure	19
7.2.2	Introduction.....	19
7.2.3	Learning Outcomes	19
7.2.4	Indicative Content.....	19
7.2.5	Required Textbook	20
7.3	Enterprise Networking.....	20
7.3.1	Structure	20
7.3.2	Introduction.....	20
7.3.3	Learning Outcomes	21
7.3.4	Indicative Content.....	21
7.3.5	Required Textbook	22

7.4	Systems Analysis and Design	23
7.4.1	Structure	23
7.4.2	Introduction	23
7.4.3	Learning Outcomes	23
7.4.4	Indicative Content.....	23
7.4.5	Required Textbooks	25
7.5	Practical Project	25
7.5.1	Structure	25
7.5.2	Introduction.....	26
7.5.3	Learning Outcomes	26
7.5.4	Indicative Content.....	26
7.5.5	Required Textbooks	26
7.6	Advanced Java.....	27
7.6.1	Structure	27
7.6.2	Introduction.....	27
7.6.3	Learning Outcomes	27
7.6.4	Indicative Content.....	27
7.6.5	Required Textbook	28
7.6.6	Prerequisites.....	28
7.7	Advanced Visual Basic.....	28
7.7.1	Structure	28
7.7.2	Introduction.....	29
7.7.3	Learning Outcomes	29
7.7.4	Indicative Content.....	29
7.7.5	Required Textbook	30
7.7.6	Prerequisites.....	30
7.8	Advanced Web Design.....	30
7.8.1	Structure	30
7.8.2	Introduction.....	30
7.8.3	Learning Outcomes	31
7.8.4	Indicative Content.....	31
7.8.5	Required Textbook	31
7.8.6	Prerequisites.....	31
7.9	Business Management.....	32
7.9.1	Structure	32
7.9.2	Introduction.....	32
7.9.3	Learning Outcomes	32
7.9.4	Indicative Content.....	32
7.9.5	Required Textbook	33
7.10	Computer Forensics	33
7.10.1	Structure	33
7.10.2	Introduction.....	33
7.10.3	Learning Outcomes	34
7.10.4	Indicative Content.....	34
7.10.5	Required Textbook	34
7.11	Internet Security	35
7.11.1	Structure	35
7.11.2	Introduction.....	35
7.11.3	Learning Outcomes	35
7.11.4	Indicative Content.....	36
7.11.5	Required Textbook	36
7.12	Internet Systems Administration.....	36
7.12.1	Structure	36
7.12.2	Introduction.....	36
7.12.3	Learning Outcomes	37

7.12.4	Indicative Content.....	37
7.12.5	Required Textbook	38
7.13	Managing Business Projects	38
7.13.1	Structure	38
7.13.2	Introduction	38
7.13.3	Learning Outcomes	38
7.13.4	Indicative Content.....	38
7.13.5	Required Textbook	39
8.	NCC Education Campus.....	39
9.	Understanding Learning Outcomes	39
9.1	Types of Learning Outcome	40
9.2	Terms Used in Learning Outcomes and their Meaning.....	41
10.	Global Assignment Guidance for Students	41
10.1	NCC Education Global Assignment Resources	42
10.2	Word Processing and Presentation Requirements	42
10.3	Harvard Referencing	43
11.	Examinations and Revision	43
11.1	Revision Plan	43
11.2	Revision Tips.....	43
11.3	Examination Writing Tips.....	44
12.	References	44
	Appendix A: Assessment Criteria	45
	Appendix B: Academic Dishonesty and Plagiarism Policy	47
	Appendix C: Academic Appeals Regulation	53
	Appendix D: Guide to Referencing and Bibliography	59
	Appendix E - Special Circumstances Form.....	65

1. An Introduction to NCC Education

For over 35 years, NCC Education has been a global leader in providing education, allowing students the opportunity to gain internationally recognised qualifications by studying at one of its Accredited Partner Centres around the world.

In collaboration with over 300 Accredited Partner Centres in more than 45 countries, each year we help our 25,000 students develop the skills and knowledge required to access a rewarding career.

Our varied qualifications are recognised by universities and employers worldwide, enabling students to study for a degree course either through an existing NCC Education affiliated university, or through one of their choice, in pursuit of their ideal job.

We aim to help students develop personally and professionally through our internationally recognised qualifications and to broaden the scope of opportunity for them.

2. Programme of Study

2.1 International Advanced Diploma in Computer Studies (IADCS)

The IADCS is equivalent to the second year of a computing degree programme in the UK university system (UK National Qualifications Framework Level 5, UK National Qualifications Framework Level Certificate (I)).

Successful graduates may progress to one of NCC Education's partner universities' top-up honours degrees in computing or IT.

2.2 Programme Aims

The IADCS aims to provide students with a knowledge and understanding of computing and an ability to apply computing concepts and principles to business and organisational problems and evaluate the results of such application.

Graduates of the IADCS should be able to successfully enter a wide range of computing-related employment and/or to continue their studies in computing, and to reflect on and evaluate their learning and experience.

2.3 Programme Learning Outcomes

The learning outcomes for the IADCS programme are given below. An explanation of learning outcomes is given in Section 9.

On successful completion of the IADCS programme a student will be able to:

1. Demonstrate a knowledge and understanding of the established principles of computer systems development and management, and of the way in which these principles have developed.
2. Specify, design, implement and use database systems.
3. Use established software engineering tools and techniques to develop computer systems which address business and organisational needs.
4. Identify the networking needs of organisations and specify appropriate systems to address these needs.
5. Demonstrate an awareness and understanding of the wider issues concerning the use and integration of computer systems in society at large.
6. Employ a well-developed set of problem-solving and analytical skills that can be applied in the pursuit of a wide range of occupations and in further study.
7. Effectively communicate and present ideas and describe and evaluate systems in both written and oral forms.
8. Demonstrate a professional approach and sense of responsibility to users and fellow practitioners in computing.

2.4 Programme Duration

The IADCS is a one-year, full-time programme. The programme is normally delivered in two 12-week semesters, each with a subsequent examination period, although other periods of delivery may be used and the programme may be studied part-time, over two years for example. All assessments and reassessments (irrespective of whether the programme is taken full or part-time) must be completed within the eligibility period, which is three years from the date at which the first assessment is taken.

2.5 Entry Requirements

Applicants who wish to enter the IADCS will need:

- An NCC Education International Diploma in Computer Studies (IDCS).
- Any local or national qualification deemed to be of a similar level to IDCS. Entry by this route must be agreed in advance with NCC Education.

A student must also have demonstrated proficiency in English by obtaining one of the following:

- TOEFL® score of at least 550
- IELTS 5.5
- An equivalent qualification.

2.6 Programme Modules

A student who successfully passes four core modules and any three from a set of elective modules will be awarded the International Advanced Diploma in Computer Studies.

A student can choose to major in one of three specialist areas and have major (specialist) subject areas marked on his/her certificate (see Section 4.3). A student specialises by choosing two elective modules that are required for the major and has a free choice of one other module. The areas in which a student may major and the required choice of electives are given below:

- **Advanced Programming** – select Advanced Java and Advanced Visual Basic as electives together with one other elective.
- **Business Management** – select Business Management and Managing Business Projects as electives together with one other elective
- **Internet Systems** – select Internet Security and Internet Systems Administration as electives together with one other elective.

There is no requirement for a student to specialise in a subject and students have a free choice of all elective modules (including those which form part of a major).

Each module is assigned a number of credits, where a credit is nominally equivalent to 10 study hours. Thus a 15-credit module amounts to around 150 hours of study and a 30-credit module around 300 hours.

When a 15-credit module is normally delivered in a 12-week semester, each module is allocated around three hours per week in guided learning activities (lectures, workshops, laboratories and tutorials) and a further 9½ hours should be allocated by the student for independent study. In addition, students are advised to allocate time (around 30 hours per module is suggested) for revision for written examinations and the completion of global assignments. The study hours should be doubled for the 30-credit module.

The Practical Project is exceptional in that it is a 15-credit module, but is normally delivered over two 12-week semesters (although it can be delivered in a single semester). This module normally has rather less time allocated to guided learning and rather more time to independent study, but should still amount to around 150 hours of student time to complete the work, with some additional time to complete the global assessment.

The table below lists the modules and the way in which they are assessed. The assessment types are discussed in Section 3.

Modules	Credits	Assessment Type		
		Global Assignment	Global Examination	Local Examination
Core Modules – must be taken				
Database Design and Development	15	60%	40%	
Enterprise Networking	15	60%	40%	
Systems Analysis and Design	30	60%	40%	
Practical Project	15	100%		
Elective Modules – choose any 3, see restrictions for major				
Advanced Java *	15	60%		40%
Advanced Visual Basic *	15	60%		40%
Advanced Web Design *	15	60%		40%
Business Management	15	60%		40%
Computer Forensics	15	60%		40%
Internet Security	15	60%		40%
Internet Systems Administration	15	60%		40%
Managing Business Projects	15	60%		40%

The modules marked * and highlighted have prerequisite modules from the International Diploma in Computer Studies (IDCS). Thus, students wishing to study these modules must have studied the IDCS modules given in the table below or have an equivalent qualification.

IADCS Module	Requires IDCS Module
Advanced Java	Java
Advanced Visual Basic	Visual Basic
Advanced Web Design	Web Design

Detailed module outlines are given in Section 7.

3. Assessment

There are three types of assessment used in the IADCS:

- Global assignments.
- Global examinations.
- Local examinations.

The way in which each assessment type contributes to the assessment of the modules is given in Section 2.6.

Formative assessment (diagnostic testing that does not contribute to grades) by teaching staff at the Accredited Partner Centre is encouraged by NCC Education in order to test the demonstrable knowledge and understanding of students in relation to the required learning outcomes, before a student is assessed in a module.

3.1 Global Assignments

The nature of global assignments varies between modules, but most global assignments require a written report. Full details of the report's specific requirements will be given with the associated assignment task, but more general guidance on the presentation and completion of reports is given in Section 10.

3.2 Global Examinations

Global examinations are set by NCC Education, taken under NCC Education regulations at the Accredited Partner Centre, and marked and moderated by NCC Education. The examinations are generally of two to three hours duration (depending on the module) and contribute 40% to the overall mark for the module. A mark of 30% or more must be gained in the global examination for a module to achieve a pass, irrespective of the mark gained in the associated global assignment (see Section 4 for further details).

Past examination papers for modules are available from the NCC Education Campus (see Section 8 for information about NCC Education Campus). Guidance on preparing for examinations is given in Section 11.

3.3 Local Examinations

Local examinations are written by NCC Education, taken under NCC Education regulations at the Accredited Partner Centre, marked by the Accredited Partner Centre and moderated by NCC Education. The examinations are generally of one to two hours duration (depending on the module) and contribute 40% to the overall mark for the module. A mark of 30% or more must be gained in the local examination for a module to achieve a pass, irrespective of the mark gained in the associated global assignment (see Section 4 for further details).

Guidance on preparing for examinations is given in Section 11.

3.4 Assessment Dates

Full details of global examination dates and the availability and deadlines for global assignments are available on the NCC Education Campus (see Section 8) and will also be provided to students by the Accredited Partner Centre where they are registered.

Local examination dates will be made available by a student's Accredited Partner Centre and will not be given on NCC Education Campus.

4. Student Performance and Results

4.1 Module Performance

A student's performance in each module will be assigned one of four grades:

- Distinction – indicating outstanding performance.
- Merit or Credit¹ – indicating a high degree of competence in the subject.
- Pass – an acceptable level of performance in which all learning outcomes have been achieved.
- Referred – a failure to achieve all learning outcomes; the module can be retaken provided that the attempt is made within the eligibility period (see Section 2). A student will be referred in a module when his/her mark is less than 40%.

The table provided in Appendix A details the generic assessment criteria for the IADCS programme. Students should refer to this table when undertaking any assessment (including formative assessment).

Students who are referred on a module may choose to retake the assessment for that module. The reassessment may be taken any time that the module is offered and a student may make multiple attempts to pass a module on which they have been referred, subject to the restriction that all attempts must be made within the eligibility period (see Section 2). A student who subsequently passes a module for which he/she had previously been referred, will have the module result recorded as Pass, irrespective of the mark that is achieved (i.e. a Distinction or Merit cannot be awarded to a student for a module on which he/she has been referred).

Students who pass a module (i.e. they receive a grade better than 'Referred') may not retake the assessment of the module with the intention of improving their grades. So, for example, a student who receives a 'Pass' grade for a module may not retake the assessments in the hope of improving his/her grade to 'Merit' or 'Distinction'.

¹ The term 'Credit' has been used by NCC Education for a number of years to indicate highly competent performance in a module's assessment. This will be replaced by the term 'Merit' in 2008 as this better describes the achievement of the student and avoids confusion with the use of the term 'Credit' as a measure of the amount of work associated with a module.

4.1.1 Modules Assessed by Examination and Global Assignment

Where a module is assessed by global assignment and examination (global or local), the overall mark for the module is given the weighted mean of the two assessments, using the weights given in the table in Section 2.6. There are additional pass criteria and reassessment regulations for such modules.

- If a student achieves an overall weighted module mean of less than 40%, he/she will be referred only in the components of the assessment in which a mark of less than 40% was awarded. Thus, a student may be referred only in the examination, only in the global assignment, or in both the examination and global assignment.
 - On reassessment, the student will be awarded a Pass grade for the module when the weighted mean of the components results in a mark of 40% or more.
- If a student achieves a weighted module mean of greater than or equal to 40%, he/she will be referred in the examination (global or local) if the examination mark is less than 30%.
 - On reassessment, the student will be awarded a Pass grade for the module when he/she achieves a mark of 30% or more in the examination.

4.2 Notification of Results

After each assessment session, Accredited Partner Centres are issued with one results slip per candidate (in electronic format) which details the grade achieved in each module, indicated as one of the following: Referred, Pass, Merit (or Credit) or Distinction as described in Section 4.1.

4.3 Programme-Level Certification

A student will be eligible for an International Advanced Diploma in Computer Studies certificate when the four core and three elective modules are passed (i.e. each module has a grade of 'Pass' or better) within the eligibility period.

A student who passes two elective modules which fall into one of the three major specialisms (see Section 2.6) will also have the subject area of the major indicated on his/her certificate.

All students, whether they pass the required set of modules or not, will be issued with a Record of Achievement. The Record of Achievement indicates the grade that they have been awarded for each module for which full assessment has been undertaken within the eligibility period.

4.3.1 Record of Achievement

The Record of Achievement will:

- indicate the grade achieved by the candidate for each module completed. The grade will be Fail, Pass, Merit (or Credit) or Distinction.

The Record of Achievement will **not**:

- display numerical marks achieved in any assessment;
- record an overall grade for the qualification.

4.3.2 Certificate

The certificate will:

- carry the signatures of the Director of Academic Standards and Quality and the Chair of the Academic Board of NCC Education;
- indicate the subject in which the student has majored, where applicable.

The certificate will **not**:

- record an overall grade for the qualification.

5. Programme Resources

5.1 CD Contents

For the International Advanced Diploma in Computer Studies (IADCS) the course materials are contained on two CD ROMs – one for the lecturer and one for the student.

It is the responsibility of the Accredited Partner Centre to ensure that:

- each lecturer has access to the module materials found on the Lecturer CD;
- each student has access to the module materials found on the the Student CD.

The CDs have an issue date and this date should always be checked to ensure that the current CD and syllabus are being used.

The information contained on each of the CDs is as follows:

Lecturer CD ROM:

- NCC Education IADCS Programme Handbook;
- Lecturer Guide for each module;
- Required textbook for each module in electronic format, where available;
- Downloadable tutor support material.

Student CD ROM:

- NCC Education IADCS Programme Handbook, which includes the document 'A Guide to Harvard Referencing' as Appendix D;
- Student material for each module;
- Required textbook for each module in electronic format, where available;
- Downloadable student support material, where available.

5.2 Textbooks

Many modules in the IADCS have a required textbook which is provided on the Student CD ROM in PDF format.

Most of the textbooks for which a PDF file is not available can be obtained at a significantly discounted price from Galatea, see Section 7.1.5.

Students are advised to obtain a hardcopy of the book, either by printing the PDF file or by gaining access to a bound hardcopy of the book.

A number of the books have online companions and supporting material, see Section 7.1.5.

The Lecturer Guide for a module often identifies a further set of useful textbooks and other resources (e.g. websites) which may be useful to students. The module lecturer will inform students of suitable supporting resources, some of which may be taken from this list.

6. Student Regulations and Policies

6.1 Assignment and Examination Irregularities

NCC Education's Academic Dishonesty and Plagiarism Policy is contained in Appendix B. This details NCC Education's policies regarding unfair practices in assignments and examinations. Students are expected to familiarise themselves with the information contained in the policy. The penalties for breaking the rules are significant and may result in a student being excluded from an NCC Education course.

NCC Education requires students to submit the Statement and Confirmation of Own Work (which is provided at the end of Appendix B) with every assignment, to record that a student has confirmed the work is entirely his/her own and that he/she has read the Academic Dishonesty and Plagiarism Policy.

6.2 Student Appeals

A student may appeal against the grade awarded for a module following the Appeals Process outlined in Appendix C. A student is required to pay a fee to

cover the administrative costs of his/her appeal. If the appeal is successful, the fee will be refunded. Students are advised to read the regulations carefully before making an appeal.

6.3 Special Circumstances

Students may face exceptional circumstances such as prolonged ill-health, pregnancy, bereavement or family problems. These circumstances may affect a student's performance in his/her assessments and may be taken into account by the awards panel for the programme when the student's results are considered.

Students experiencing special circumstances should inform their Accredited Partner Centre using the form in Appendix E. If the circumstances are judged by the Accredited Partner Centre to have had an adverse impact on the student's studies, the Accredited Partner Centre should inform NCC Education using the form given in Appendix E. A student experiencing special circumstances should also be aware of the material in sections 6.4 and 6.5.

6.4 Extensions to Assignment Deadlines

A student who is unable to meet a global assignment deadline because of special circumstances (see Section 6.3 for examples of circumstances) may apply for an extension to the Accredited Partner Centre with which he/she is registered. If the extension is granted, the assignment will generally be assessed in the following assessment cycle.

On receipt of a request for an extension, the Accredited Partner Centre will investigate the circumstances and, if found to be genuine, will forward the circumstances and all relevant details to NCC Education Support Services. Support Services will inform the Accredited Partner Centre whether the request is approved or not.

Assignments submitted after the published deadline without an approved extension will receive a mark of zero.

6.5 Suspension of Studies

A student who is experiencing special circumstances (such as prolonged ill-health, pregnancy, bereavement, family problems, exceptional financial difficulties, or a traumatic experience) may seek to suspend his/her studies. This process allows a student to suspend his/her studies and resume them at a later date.

Students who believe that they would benefit from a suspension of studies should contact the Accredited Partner Centre with which they are registered in the first instance.

6.6 Withdrawal from Programme

A student who wishes to withdraw from the programme should inform the Accredited Partner Centre with which they are registered as soon as possible. Students who wish to withdraw because of special circumstances are advised

to consider suspending their studies (see Section 6.5). Advice can be obtained from the student's Accredited Partner Centre.

7. Programme Module Outlines

7.1 Reading Programme Module Outlines

This section gives guidance on the information contained in programme module outlines.

7.1.1 Structure

This section indicates the number of credits associated with the module, the number of hours of supervised and independent study, and the method of assessment.

Students should note that the number of independent study hours is the basic requirement for an average student to pass the module. Additional work may be required to obtain higher grades. The figure suggests that for every hour of supervised study a student should allocate around three hours of his/her time. Students should also note that this figure does not include revision time for the examinations.

7.1.2 Introduction

This section gives a brief introduction to the module; presenting the module's aims and introducing the material covered.

7.1.3 Learning Outcomes

The Learning Outcomes (LOs) for the module indicate the attributes and skills that a student will be able to exhibit when he/she has successfully completed the module. When reading the LOs, the LO should be prefixed by the statement "on successful completion of the module the student will be able to."

The table also indicates which level the LO falls into in the adapted form of Bloom's taxonomy used in this handbook.

Section 9 gives further information on understanding learning outcomes.

7.1.4 Indicative Content

This section presents the material that will be generally covered when the module is taught.

7.1.5 Required Textbook

This section indicates the textbook (or textbooks) that a student must obtain in order to study the module.

Many modules are supported by one or more textbooks which are provided in PDF format on the Student CD. If this material is available, it is indicated in this section.

Online Companions and Supporting Material

A number, but not all, of these books have online companions and supporting materials (including tests, exercises, etc) that are designed to support study. The supporting material, but not the online companion, can be found on the Student CD where available. Online companions and support material are periodically updated, thus students should check for updates (using the procedure outlined below) on a regular basis.

To access materials:

- Go to www.course.com
- On the right hand side of the screen there are several headings. Under the heading entitled STUDENTS, click on Student Downloads
- Search for the required book. The title of the book or the ISBN (International Standard Book Number) can be used (see the module's outline for details)
 - for example, if searching for *Electronic Commerce*, input *either* the ISBN 1418837037 *or* the title and start the search.
- A new screen will appear, with the details of the book. On the right hand side, under the heading entitled STUDENTS, click on Student Downloads.
- A link for the Online Companion and the Supporting Material for this book will appear.

Bound Hardcopies

Bound hardcopies of most of the textbooks can be obtained from Galatea at a price very significantly below the normal publication price. Contact Steve Newton (email: steve.newton@galatea.co.uk, telephone: +44(0) 1706 351389).

Students may also be able to obtain hardcopies from the Accredited Partner Centre at which they are studying.

Alternatively, textbooks may be obtained from online bookstores (for example www.amazon.com) or from the publisher's website. Searching using the book's ISBN is recommended.

7.1.6 Prerequisite Modules

Where applicable, this section identifies any prerequisites for the study of the module.

7.2 Database Design and Development

7.2.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Global Examination (40%)

7.2.2 Introduction

This module aims to provide students with an understanding of database concepts and key issues in the development of databases. The module considers the architecture and use of a Database Management System (DBMS) and the issues of physical design and database administration.

7.2.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Identify and explain the fundamental concepts of databases and the application of databases to real-life problems.	Knowledge, Understanding, Evaluation, Synthesis
LO 2	Explain the features of different data models.	Knowledge, Understanding, Analysis, Evaluation
LO 3	Formulate queries and develop databases using a commercial Database Management System.	Application, Analysis, Evaluation
LO 4	Apply data modelling and analysis techniques to the development of database solutions.	Knowledge, Understanding, Application, Synthesis
LO 5	Demonstrate knowledge and understanding of data organisation, access mechanisms and transaction management.	Knowledge, Understanding, Analysis, Evaluation
LO 6	Demonstrate knowledge and understanding of database administration and database security.	Knowledge, Understanding, Analysis, Evaluation
LO 7	Demonstrate knowledge and understanding of the future trends and applications of database systems.	Knowledge, Understanding, Analysis Evaluation

7.2.4 Indicative Content

A. Fundamentals: Abstract machines, databases, DataBase Management Systems (DBMS), data models, database systems, ICT and Information Systems (IS), the data management layer.

- B. Data models:** Relational model, OO model, post-relational model.
- C. DBMS interface – SQL.**
- D. Database development:** Development process, requirements elicitation, entity-relationship diagramming, normalisation, physical database design, implementation.
- E. Database systems administration:** Data administration, database administration, DBMS – Toolkit.
- F. Data organisation and access mechanisms.**
- G. Transaction management and other kernel functions.**
- H. Commercial DBMS.**
- I. Distributed database systems.**
- J. Applications of database systems.**

7.2.5 Required Textbook

Beynon-Davies, P. (2003) *Database Systems*, 3rd Edition, Palgrave Macmillan (ISBN: 1403916012).

This textbook is available in electronic format on the International Advanced Diploma in Computer Studies Student and Lecturer CDs.

7.3 Enterprise Networking

7.3.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Global Examination (40%)

7.3.2 Introduction

Effective communication, both internally and externally, is vital to the success of a modern business. This module aims to provide students with the necessary skills and knowledge to understand the networking options that are available to a business, to evaluate the business's requirements for data and voice networking and to determine the most appropriate networking solution to meet the requirements.

7.3.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Demonstrate knowledge and understanding of networking and telecommunications concepts, technologies and standards.	Knowledge, Understanding
LO 2	Demonstrate knowledge and understanding of onsite networking, mobile networking and wireless networking.	Knowledge, Understanding
LO 3	Use appropriate tools and techniques to analyse enterprise network requirements.	Analysis, Application, Synthesis
LO 4	Use appropriate tools and techniques to plan enterprise network requirements.	Analysis, Application, Synthesis

7.3.4 Indicative Content

- A. General Overview and Network Structure:** Identify different network types, ascertain essential network characteristics, ascertain main network functionality, understand what is meant by transmission, appreciate the need for signalling in networks, meaning of network infrastructure, differentiate between core and access networks, understand the meaning of 'bearer' and which bearers are used in different parts of the network, understand the meaning of 'node' and the network configurations to interconnect nodes.
- B. Transmission Principles and Systems:** Analogue and digital transmission techniques, difficulties arising in transmission, meaning of 'bandwidth', reasons for the use of digital rather than analogue, distortion echo and attenuation, implications of using four-wire as opposed to two-wire circuits, modulation techniques, purpose of multiplexing, digital network hierarchies.
- C. Signalling:** Types of signalling systems, difference between forward and backward signals, differences between channel-associated and common-channel signalling, PCM signalling systems, inter-register signalling, Common Channel Signalling System No. 7.
- D. Telecommunications Traffic and Mobile Communications**
- I. Characteristics of telecommunications traffic, basic telecommunications traffic theory, availability and probability, difference between lost calls and delayed calls, dimensioning of networks and switching systems, problems due to overload and congestion, implications of alternative routing.
 - II. Major mobile communications networks, cellular and private mobile radio, compare mobile and fixed networks, satellite networks, Global Positioning System and location-enhanced applications.

- E. **Packet Switching:** Circuit and message switching, equipment and techniques used in packet switching, network design issues, X.25 standard, frame relay and SMDS, importance of packet switching to the Internet, future trends.
- F. **ISDN:** Principal elements of ISDN, principal access structures for ISDN, ISDN services, impact of ISDN on existing technologies, major benefits of ISDN to data communications and telephony users, opportunities for future new applications.
- G. **Broadband Networks:** Meaning of 'broadband', reasons for broadband networks, importance of fibre optic access to core WAN, significance of Asynchronous Transfer Mode, developments in the broadband industry.
- H. **Wireless Networking:** Principles of wireless networking, range of equipment, wireless standards, operating ranges, hotspots, security implications, Bluetooth, RFID technology.
- I. **The Internet:** Development of the Internet, organisations and mechanisms that guide the development of the Internet, protocols, development of the World Wide Web, future trends.
- J. **Network Management:** Appreciate the nuances of network management, understand why network management is important to network users and network operators.
- K. **Customer Premise Equipment and Within Site Networks:** Main equipment or systems adopted for connection to public telecommunications networks, functions of PBXs and KTSs, call centre functions, voice processing, call information loggers and facsimile, LAN and WAN, physical network cabling used for LANs, advantages of structured cabling, fibre optics, Ethernet and its standards, token ring and its standards, FDDI and its applications, trends in LAN technology.
- L. **Network Security and Planning:** Definition of a secure network, major threats to network security, countermeasures, disaster recovery plan and the components of the plan, importance of traffic analysis to network design, role of queuing theory, choosing appropriate bearers, reasons for ensuring network resilience.

7.3.5 Required Textbook

Enterprise Networking, 3rd Edition. (2007) NCC Education, (ISBN 1902343506).

This textbook is available in electronic format on the International Advanced Diploma in Computer Studies Student and Lecturer CDs.

7.4 Systems Analysis and Design

7.4.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
30	72	228	Global Assignment (60%) Local Examination (40%)

7.4.2 Introduction

This module aims to provide students with the knowledge and skills to progress from the gathering of the initial requirements for a complex system through to a tested system which delivers the desired functionality. The module considers development methods, analysis and design tool and techniques and a wide range of other issues including user interface design, system documentation, security and performance.

7.4.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Demonstrate knowledge and understanding of systems analysis and design methods and life cycles, and their application to real-life problems.	Knowledge, Understanding, Application, Synthesis
LO 2	Demonstrate knowledge and understanding of systems in organisations, their contexts and needs for change.	Knowledge, Understanding
LO 3	Demonstrate knowledge and understanding of systems analysis team roles and documentation standards.	Knowledge, Understanding, Application
LO 4	Use appropriate techniques to document system and user requirements, including security issues.	Analysis, Application
LO 5	Apply systems analysis and design tools, techniques and procedures to design systems to solve typical business problems.	Application, Analysis, Synthesis

7.4.4 Indicative Content

- A. Introduction to Systems in Business:** Definition of a system, systems concepts, business as a system, the database principle.
- B. The Organisation of Business:** Types of business, nature of business organisation, functional breakdown of a business, relationships between business functions, objectives and principles of business organisation, the management process.

- C. Information within Business:** Role of data in an organisation, manipulation of data to provide information, purpose of an Information System, information requirements of an organisation.
- D. Roles in Systems Analysis and Design:** skills, abilities and personal characteristics of the systems analyst, role of the user, relationships between groups, the working environment.
- E. The Systems Development Life Cycle:** The life cycle, products of the life cycle, documentation of life cycle products, the operational business and the system project, structured methodologies, their features, advantages and costs.
- F. Systems Investigation:** Purpose, cost of errors, business activity modelling, conducting an investigation, dealing with the user, producing a specification, documentation.
- G. Function Modelling/Data Flow Diagrams:** Data Flow Diagrams (DFDs), definitions and symbols, conventions, developing DFDs, context diagrams.
- H. Entity Analysis:** Definition and purpose, entities, relationships, attributes.
- I. Relational Data Analysis:** Data normalisation, terminology, normal forms, optimisation.
- J. Entity Life Histories:** Application of Entity Life Histories (ELHs), concepts and terminology, notation, construction.
- K. Logical Data Modelling:** Logical system modelling, access requirements, entity processing matrices, access paths, structured specification, system alternatives, producing specifications.
- L. File Design/Data Dictionary:** System design context, data and the logical files, file access requirements, file design considerations, file definitions and concepts, development of initial design, design evaluation and modification, Data Dictionaries, data elements and data structures, automation – CASE.
- M. OO Analysis and Design:** Characteristics of OO systems, purpose and use of UML diagrams, UML functional model, UML structural model, UML behavioural model, evolution of OO analysis models into OO design models.
- N. Procedure Specification:** Mini-specs, flow charts, structured English, pseudocode, decision tables.
- O. Program Specification:** The objective of procedure and program specification, structured design, design considerations, design evaluation.

- P. Screen Layout and Dialogue Design:** Understanding the requirements, screen design, validation rules and error messages, Graphical User Interfaces.
- Q. Forms Design:** Forms definition, stages of form design, design considerations.
- R. Input/Output Design:** Procedure design, processes, error detection and correction, documentation.
- S. Design of Coding Systems:** Types of codes, principles of code design, planning a coding system.
- T. Design and Documentation of Manual Procedures:** Identification of processes for manual procedure design, human and environmental factors, staffing and resource levels, failure recovery and fall back procedures, documentation.
- U. System Performance:** System types, timing calculations, tuning of system performance.
- V. System Security:** Definitions, consequences and causes of loss of security, layers of security, risk management, systems recovery, contingency planning, system integrity, system audit, confidentiality.
- W. Testing Systems:** Scope of testing, types of testing, development of test plans, documentation of testing.
- X. Planning and Implementation:** Implementation context, planning and control, changeover, systems review.

7.4.5 Required Textbooks

Business Systems Analysis, 2nd edition (2007), NCC Education, (ISBN 0954307101).

Business Systems Design, 2nd edition (2007), NCC Education, (ISBN 0954307102).

These textbooks are available in electronic format on the International Advanced Diploma in Computer Studies Student and Lecturer CDs.

7.5 Practical Project

7.5.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
15	12	138	Global Assignment

7.5.2 Introduction

This module requires a student to develop a practical computer-based system for an external customer, following professional software development and implementation practices. The experience will be very valuable to the student; he/she will be able to use practically a wide range of knowledge gained from other modules in the programme and his/her own research. The student will gain practical skills and be able to place material from other modules into context.

7.5.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO1	Develop a systems project plan, requirements specification and a test plan.	Application, Synthesis
LO2	Consider a range of information systems development methods and tools and to select appropriate methods and tools for the proposed system.	Evaluation
LO3	Develop and test an information system using modern development tools.	Analysis, Synthesis
LO4	Produce documentation on the process of development and use of finished software.	Application
LO5	Evaluate the methods used and the resulting system.	Evaluation
LO6	Liaise and interact with external clients.	Application

7.5.4 Indicative Content

- A. The development of a computer-based system which considers the needs of an external client, following established system development practice.
- B. Documentation of the development process and the system.
- C. Evaluation of the success of the system and the approach employed.
- D. Demonstration of the system.

7.5.5 Required Textbooks

None.

7.6 Advanced Java

7.6.1 Structure

Credits	Lecture/Tutorial /Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.6.2 Introduction

This module is designed to build upon students' previous knowledge of Java (see Section 7.6.6) with the aim of further developing knowledge and skills in object-oriented concepts and programming in general and Java programming in particular. The module considers a wide range of Java features including components (Java Beans), advanced user interface design and implementation, and the development of web-based applications.

7.6.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO1	Identify and explain the features of Java with respect to a variety of application domains and technologies.	Knowledge, Understanding
LO2	Develop Java programs using appropriate data structures, algorithms, language features, libraries and components.	Application, Analysis, Synthesis
LO3	Use modelling techniques to design Java programs for a variety of application domains.	Application, Analysis, Synthesis

7.6.4 Indicative Content

- A. **Introduction:** Review of required background skills, Java2 platforms (J2SE, J2EE, J2ME), Java SDKs.
- B. **Object-oriented analysis and design**
 - I. Modelling techniques: Class diagrams, object diagrams, use cases, scenarios, state diagrams, sequence diagrams, collaboration diagrams, activity diagrams.
 - II. Modelling Tools.
 - III. Object-oriented features of Java: abstract data types, encapsulation, inheritance, polymorphisms, association, aggregation and composition, multiple inheritance, interfaces.

- C. **Advanced Java programming:** Utility packages, Java collection framework, multi-threading.
- D. **Input/Output:** IO serialisation, Java streams and classes, read and write files.
- E. **Java Beans:** The Component Model, JavaBeans architecture, JavaBeans versus ActiveX.
- F. **Security:** Controlling applets and applications, API and tools used for secure code and file exchanges, generating and verifying signatures, permissions.
- G. **Using relational databases:** JDBC basics, Java database connectivity, java.sql.
- H. **XML:** JAXP, DOM, SAX API, Comparison of DOM and SAX.
- I. **Network Programming:** Java networking with URL, sockets and diagrams, Java clients and servers.
- J. **Graphical User Interface (GUI):** Swing API, use of javax.swing, JComponent class, adding various GUI features.
- K. **Building Web Applications:** Servlet API, Java Server Pages, Tomcat server, JSP versus Servlet.
- L. **Introduction of the Enterprise technologies:** Introduction of Enterprise Java beans.

7.6.5 Required Textbook

Wigglesworth, J. and McMillan, P. (2003) *Java Programming: Advanced Topics*, 3rd edition, Course Technology (ISBN 0619159685).

7.6.6 Prerequisites

Students studying this module must have passed the International Diploma in Computer Studies (IDCS) module in Java or hold an equivalent qualification.

7.7 Advanced Visual Basic

7.7.1 Structure

Credits	Lecture/Tutorial /Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.7.2 Introduction

This module is designed to build upon students' previous knowledge of Visual Basic (see Section 7.7.6) with the aim of further developing knowledge and skills in object-oriented concepts, object-oriented programming and component-based development in general and Visual Basic programming in particular. The module considers a wide range of Visual Basic features including web programming, deployment of applications on cell phones, interaction with databases and control of Microsoft Office applications.

This module uses Visual Basic 2005, which is targeted at the .NET framework.

7.7.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Explain the advantages of the Common Language Specification.	Understanding
LO 2	Describe the run time processes of .NET FRAMEWORK involving Just In Time compilation, Intermediate Language and Common Language Run Time.	Understanding
LO 3	Analyse, design, implement, test and document complex data-centric solutions to stated problems.	Analysis, Application, Synthesis
LO 4	Apply object-oriented processes to the solution of stated web-based problems.	Application
LO 5	Make appropriate use of a wide range of the structures and facilities provided by Visual Basic 2005.	Analysis, Application

7.7.4 Indicative Content

- A. **Common Language Specification:** Visual Studio 2005, Programming Languages, .NET Framework 2.0, .NET Class Library, ADO.NET 2.0, ASP.NET 2.0, MSIL and CLR.
- B. **Multiple Classes and Inheritance:** Class creation, instantiation, constructors; passing arguments to classes; inheritance; persistence.
- C. **Creating Web Applications:** Creating dynamic websites, web form properties, adding objects to web forms, use of custom tables, validation controls, use of the
 tag, using string class.
- D. **ADO.NET 2.0:** Programming beyond the Database Wizard.
- E. **Cell Phone Applications:** Smart devices, Smartphone applications, using cell phone keypad for input, Smartphone Toolbox objects, creating a Softkey application, coding Smartphone applications, displaying Messagebox objects.

- F. **Web Services:** Finding web services, creating web service connection, calling web service method.
- G. **Crystal Reports:** Creating and displaying a report.
- H. **Visual Studio Tools for Office:** VSTO, templates (Word, Excel, Outlook), VSTO Projects.

7.7.5 Required Textbook

Shelly, G.B., Cashman, T.J. and Hoisington, C. (2006) *Microsoft Visual Basic 2005 for Windows, Mobile, Web, Office and Database Applications*. Course Technology (ISBN 0619254823).

This textbook is available in electronic format on the International Advanced Diploma in Computer Studies Student and Lecturer CDs.

7.7.6 Prerequisites

Students studying this module must have passed the International Diploma in Computer Studies (IDCS) module in Visual Basic or hold an equivalent qualification.

7.8 Advanced Web Design

7.8.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.8.2 Introduction

This module is designed to build upon students' previous knowledge of web design (see Section 7.8.6) with the aim of acquiring further knowledge and skills in the development of professional websites. The module develops knowledge and skills in areas such as Cascading Style Sheets and the use of forms.

7.8.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Explain the concepts of the Internet and the World Wide Web and their use in organisations.	Knowledge, Understanding
LO 2	Use HTML, XHTML, CSS and web development tools to plan and develop websites.	Application, Synthesis
LO 3	Identify and explain tools and concepts to plan and build interactive websites linked to business applications.	Knowledge, Understanding
LO 4	Identify and explain issues in web server design and management.	Knowledge, Understanding

7.8.4 Indicative Content

- A. The World Wide Web and web design environment.**
- B. Website design principles.**
- C. Planning a website.**
- D. Planning site navigation.**
- E. Formatting web pages using tables and application of effective HTML.**
- F. Cascading Style Sheets (CSS).**
- G. Graphics and colour in the design and coding of a website.**
- H. Forms as a means to link interactive websites with business applications.**
- I. Publication and maintenance of websites.**
- J. XHTML.**

7.8.5 Required Textbook

Sklar J, *Principles of Web Design* Third Edition (2006), Course Technology (ISBN 0619216662).

This textbook is available in hardcopy from Galatea (see Section 7.1.5).

7.8.6 Prerequisites

Students studying this module must have passed the International Diploma in Computer Studies (IDCS) module in Web Design or hold an equivalent qualification.

7.9 Business Management

7.9.1 Structure

Credits	Lecture/Tutorial /Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.9.2 Introduction

Many organisations place emphasis on the use of professional business management to control their structure, strategy and operations. It is important, therefore, that IT practitioners understand the principles of effective management, not just from the perspective of developing effective business information systems, but also in the way they interact with both their staff and clients. This module aims to support students in the development of their management techniques and competencies. The module covers organisational and people issues, and stresses the importance of managing corporate information and finance effectively.

7.9.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Identify types of business organisations and the contexts in which they operate.	Knowledge, Understanding, Analysis
LO 2	Recognise the complexities of managing people effectively in the workplace.	Knowledge, Understanding, Analysis
LO 3	Apply the techniques of financial management and decision-making.	Analysis, Application
LO 4	Assess change factors and the management implications of change.	Analysis, Application

7.9.4 Indicative Content

- A. **Introduction:** Key concepts of business, including product and market.
- B. **Business Environment:** Contexts and environments; key models for analysis.
- C. **Organisational structures:** Different types of structures; common business functions.
- D. **Business Strategic Planning:** Corporate missions; policies and values.

- E. Business Strategic Planning:** Forecasting; creation of corporate strategy.
- F. Finance in Business:** Accounting conventions; financial information and documentation, financial ratios; cost/benefit analysis; budgets.
- G. Human Factors:** Communication within organisations; leadership and teams, behaviour and motivation; recruitment, retention and appraisal.
- H. General Management:** Managing groups, conflict and effective communications.
- I. Change Management:** Problems of change; change management and consolidation.
- J. Business Risk Management:** Approaches to business risk assessment and containment.

7.9.5 Required Textbook

Darling, F. (2002) *Business Management*, 3rd edition, Galatea Training Services Ltd. (ISBN 095430716X)

This textbook is available in hardcopy from Galatea (see Section 7.1.5).

7.10 Computer Forensics

7.10.1 Structure

Credits	Lecture/Tutorial /Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.10.2 Introduction

The growth of the Internet and the increasing interconnection of computers have led to a vast increase in computer-related crime and the misuse of computer systems. This module aims to provide students with knowledge and practical skills in the area of computer forensics to gather evidence of crimes and unacceptable use in a corporate environment. The module considers techniques that can be used with a number of operating systems and on computer systems ranging from basic workstations to high-end servers.

7.10.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Identify and explain the main stages of a forensic computer investigation and the tools used in such an investigation.	Knowledge, Understanding
LO 2	Employ systematic procedures to gather digital evidence.	Application
LO 3	Employ computer forensic analysis techniques to investigate recorded evidence and email crimes.	Application, Analysis
LO 4	Recover image files using appropriate techniques.	Application
LO 5	Present evidence derived from a computer forensic analysis to others.	Application

7.10.4 Indicative Content

- A. Introduction to Computer Forensics:** The main stages of a computer investigation.
- B. File Systems and Disk Structures:** Overview of computer data and disk drives.
- C. Computer Forensics Tools:** The tools and environments required to undertake a computer forensics investigation.
- D. Collecting Digital Evidence:** Main procedures for systematically collecting digital evidence.
- E. Acquiring Digital Evidence from Disk Drives:** Tools and methods used to acquire and preserve digital evidence from disk drives.
- F. Computer Forensics Analysis:** Applying computer forensics skills and techniques to a computing investigation in order to analyse recorded evidence.
- G. Email Investigations:** Techniques for identifying and investigating email crimes and violations.
- H. Recovering Image Files:** Techniques for recovering and analysing graphic image files.
- I. Presenting the Findings of the Forensics Investigation:** Approaches to the written and verbal presentation of a computer forensics investigation.

7.10.5 Required Textbook

Phillips A., Nelson B, Enfinger, F., and Steuart, C (2003) *Guide to Computer Forensics and Investigations*, Course Technology (ISBN 0619131209).

This textbook is available in hardcopy from Galatea (see Section 7.1.5).

7.11 Internet Security

7.11.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.11.2 Introduction

Internet security is a major challenge for businesses of all sizes. This module aims to provide students with appropriate theoretical knowledge, and the intellectual and practical skills to develop and implement security policies and procedures that will protect data and react to threats posed by connection to the Internet.

7.11.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Explain basic security concepts. Describe and classify security threats, and choose appropriate safeguards to prevent them. Identify network protocol weaknesses and security solutions. Discuss the concepts, standards and processes forming the basis of a security policy.	Knowledge, Understanding
LO 2	Establish security requirements for a particular environment. Develop architecture of devices, software, and other types of technology solutions to detect malicious activity. Develop an appropriate set of Intrusion Detection Systems (IDS) such as Network Intrusion Detection Systems (NIDS), Host Intrusion Detection Systems (HIDS), and honeypots which should work in synchronisation to forestall malicious activity.	Analysis
LO 3	Use preventive security controls to protect accounts, passwords, groups, and software for Unix and Windows. Apply the detective and corrective controls.	Application
LO 4	Explain the benefits of audit, policy verification, compliance review, security review and security testing and also of various approaches to these activities. The role of governmental and commercial security standards.	Knowledge, Understanding
LO 5	Identify the effects of changes in security technology on a particular networked environment and formulate a response.	Application, Evaluation

7.11.4 Indicative Content

- A. Introduction to Information Security and Processes:** Building a security policy; putting into practice the controls outlined in a security policy.
- B. Threats to IT Assets:** Identification of threats and categorising them to estimate what they entail; preventive strategy.
- C. Encryption:** Encryption algorithms and infrastructure required to implement them in practical, real-life applications.
- D. Network Security:** An introduction to network security.
- E. Threats to Network Security:** Identification of threats to a network and the development of solutions to mitigate them.
- F. Intrusion Detection:** Methodologies for Network Intrusion Detection Systems (NIDS) and Host Intrusion Detection Systems (HIDS).
- G. System Security:** Tools and techniques to secure system in general, UNIX system security, Windows system security.
- H. Standards and Compliance:** Auditing security policies and checking their compliance with standards.
- I. Security Testing:** Simulation of malicious attacks on live networks.

7.11.5 Required Textbook

Mackey, D. (2003) *Web Security for Network and System Administrators*, Course Technology, (ISBN 0619064951).

This textbook is available in hardcopy from Galatea (see Section 7.1.5).

7.12 Internet Systems Administration

7.12.1 Structure

Credits	Lecture/Tutorial/ Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.12.2 Introduction

A large number of organisations have an Internet presence and conduct business over the Internet. This module aims to provide students with the theoretical underpinning, and intellectual and practical skills that will allow them to develop and maintain complex, Internet-based systems.

7.12.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Explain how Internet-enabled systems are built. Identify and explain the key concepts, including Internet protocols, client-server architectures, web-hosting, client-side and server-side software.	Knowledge, Understanding
LO 2	For a particular application, establish requirements and explain the impact of various features of Internet infrastructure, Internet client infrastructure, hardware and software connection devices, and Internet bandwidth technologies.	Analysis
LO 3	Develop and deploy applications. Use hardware devices, software and techniques to support services and activities for the web.	Application
LO 4	Monitor processes, services and events.	Evaluation
LO 5	Configure web servers, web clients, desktops, connection devices, web-related servers and operating systems.	Application
LO 6	Identify the effects of changes in technology on a particular networked environment and formulate a response.	Analysis, Evaluation

7.12.4 Indicative Content

- A. **Client/server basics:** Comparison of centralised computing, client/server architecture and P2P architecture.
- B. **Basics of Hypertext documents:** Web-related servers.
- C. **Hosting a site:** Domain names.
- D. **Hosting a server:** UNIX versus Windows, sizing a server.
- E. **Managing users and documents on web servers:** File and user hierarchies; Server administration.
- F. **Directories:** Using directories to facilitate activities on the web.
- G. **Server configuration:** Selection, installation and customisation of web servers; In-depth server configuration; access management.
- H. **Server-side programming:** CGI and forms; high-level, server-side programming.
- I. **Log files:** Log file formats and use.
- J. **Search engines, robots and automation:** Searchable sites; publishing a site.

7.12.5 Required Textbook

Internet Systems Administration, Galatea Training Services (ISBN 1902343581).

This textbook is available in hardcopy from Galatea (see Section 7.1.5).

7.13 Managing Business Projects

7.13.1 Structure

Credits	Lecture/Tutorial /Practical Workshop Hours	Student Independent Study Hours	Assessment
15	36	114	Global Assignment (60%) Local Examination (40%)

7.13.2 Introduction

In a highly competitive global environment, where traditional business processes may struggle, organisations are increasingly implementing projects to initiate and manage business change. This module aims to provide students with knowledge and skills in project management applied to systems development and other business functions.

7.13.3 Learning Outcomes

	Learning Outcomes (LOs)	Bloom's Taxonomy Level
LO 1	Explain the nature of projects in organisational contexts and how such projects should be managed.	Knowledge, Understanding.
LO 2	Create viable plans for project scenarios based on appropriate assessment of time, cost and quality factors.	Analysis, Application.
LO 3	Describe the ways in which projects are monitored and controlled to ensure project outputs are fit for purpose.	Knowledge, Understanding, Application.
LO 4	Assess the risks of projects and identify effective responses.	Evaluation, Analysis, Application.

7.13.4 Indicative Content

- A. Introduction:** Terminology, software project issues, the development life cycle: project roles and responsibilities.
- B. Meeting the Business Requirement:** Information systems in business; strategic planning issues, feasibility studies; requirements elicitation and specification; invitation to tender.

- C. Project Initiation:** Establishing the project; stakeholders and success criteria.
- D. Project Planning:** Benefits of planning; hierarchy of plans; exception planning; visual techniques for planning.
- E. Project Estimating:** Generic techniques; metrics; monitoring productivity.
- F. Risk Management:** Concept of project risk; techniques for management of risks.
- G. Project Monitoring and Control:**
 - I. Human Communications:** Appropriate modes of communication; monitoring and control loops; control stages, participants and tools.
 - II. System Assurance:** Quality standards; change control and configuration management; verification, validation, testing; inspection.
- H. Procurement Management:** Identifying and selecting suppliers; managing relationships.
- I. Post-project Activity:** The evaluation process – preparation, review and feedback; evaluation checklists; lessons learned.

7.13.5 Required Textbook

Bentley. C. (2002) *Managing Business Projects*, 2nd edition. Galatea Training Services Ltd. (ISBN 1902343530)

This textbook is available in hardcopy from Galatea (see Section 7.1.5).

8. NCC Education Campus

The NCC Education Campus is available at <http://campus.nccedu.com>. Students will be provided with a login and password to access the NCC Education Campus.

The Campus gives students access to teaching materials, past and current global assessments, past global examination papers and other useful resources. It also provides forums for student discussion.

The Campus also gives staff at Accredited Partner Centres access to a range of resources.

9. Understanding Learning Outcomes

Learning outcomes identify the specific intentions of each module contained in the programme of study and the programme as a whole. They describe what

students should know, understand, or be able to do at the end of a module and a programme. The use of learning outcomes leads to a more student-centred approach: learning outcomes indicate the skills and attributes that students should possess following the successful completion of a module or programme.

To ensure comparability with the UK university sector on content, standards and quality, NCC Education uses the UK Government Quality Assurance Agency (QAA) subject benchmark statement for undergraduate computing, to construct the learning outcomes:

(<http://www.qaa.ac.uk/academicinfrastructure/benchmark/statements/computing07.pdf>)

together with the level descriptors provided by the QAA for level 1 (intermediate) UK National Qualification Framework level 5.

<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp#annex1>

Learning outcomes (LOs) will:

- help to guide students in their learning, as the LOs explain what is expected of each student, therefore assisting them to succeed in their studies;
- help teaching staff to focus on exactly what they require students to achieve in terms of both knowledge and skills;
- provide a useful guide to inform potential candidates and employers about the general knowledge and understanding that an IADCS holder will possess.

Module assessment will demonstrate that students have achieved the module learning outcomes.

9.1 Types of Learning Outcome

At the programme level, learning outcomes are generally split into four groups:

- Knowledge and understanding – facts about the subject and understanding of concepts.
- Intellectual skills – the ability to apply knowledge and understanding in the subject area.
- Practical skills - the ability to carry out practical tasks in the subject area.
- Key transferable skills – skills that can be used in contexts outside the subject area.

9.2 Terms Used in Learning Outcomes and their Meaning

The following table (taken from the version of Bloom's Taxonomy updated by Anderson and Krathwhol (2002), provides clear definitions of the language used in the learning outcomes and examples of how students will be expected to demonstrate their skills and attributes, indicating that the learning outcome has been accomplished.

Term	Examples
CREATING: can the student create a new product or point of view?	Assemble, construct, create, design, develop, formulate, and write.
EVALUATING: can the student justify a stand or decision?	Appraise, argue, defend, judge, select, support, value, evaluate.
ANALYSING: can the student distinguish between the different parts?	Appraise, compare, contrast, criticise, differentiate, discriminate, distinguish, examine, experiment, question, test.
APPLYING: can the student use the information in a new way?	Choose, demonstrate, dramatise, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.
UNDERSTANDING: can the student explain ideas or concepts?	Classify, describe, discuss, explain, identify, locate, recognise, report, select, translate, paraphrase.
REMEMBERING: can the student recall or remember the information?	Define, duplicate, list, memorise, recall, repeat, reproduce, state.

Note that in the Module Outlines in Section 7, the term 'Knowledge' is used to stand for 'Remembering' and the term 'Synthesis' for 'Creating'.

10. Global Assignment Guidance for Students

This section provides general advice on tackling global assignments, focusing on the formatting and presentation requirements.

Students are advised to:

- Carefully read the assignment specification. It is important that a student understands the assignment and that he/she addresses the questions and tasks specified.
- Be aware of the assignment deadline and plan their work accordingly.
- Ensure that they are clear about NCC Education's plagiarism policy (see Section 6.1 and Appendix B).

- Ensure that they follow NCC Education's word processing and presentation requirements for assignments (see Section 10.2).
- Ensure that they follow the referencing format specified (see Section 10.3).

10.1 NCC Education Global Assignment Resources

To help students in writing the assignment, the NCC Education Campus provides sample assignment questions from previous assessment sessions together with the marking schemes (see Section 8).

Also provided on the NCC Education Campus are moderation reports, which include Global Assignment reports per module for staff at Accredited Partner Centres.

10.2 Word Processing and Presentation Requirements

The way in which the assignment is presented is important. It is imperative that the marker is able to see the questions and the answers. It is essential to ensure that the grammar and spellings are accurate and correct. Students should use the checklist below as a guideline before submitting the assignment for marking:

- Use standard Arial font size 11.
- Submission to be printed single-sided, not double sided.
- Ensure that the word limit for the assignment is not exceeded.
- Include page numbers.
- Include title page.
- Include a table of contents.
- Start each task on a new page and include the question.
- Ensure any diagrams, screen shots, PowerPoint slides fit correctly on the page and are referenced, for example, Fig. 1, Fig. 2, etc.
- Use accurate Harvard referencing (see Section 10.3) and include a bibliography
- Include a completed Statement and Confirmation of Own Work as the front page.
- Check spelling, grammar and punctuation.
- Submit the assignment on a floppy disk or CD ROM by the deadline date provided.

10.3 Harvard Referencing

NCC Education requires students to use accurate Harvard referencing and to include a bibliography with each Global Assignment submission.

A guide to using the Harvard referencing system is provided in Appendix D and on the Student CD.

Students should also ensure that when direct quotes are taken from other sources, they are clearly marked as such (by the use of quotation marks) and correctly attributed. Failure to do so will contravene the rules on plagiarism (see Appendix B).

11. Examinations and Revision

To help students in preparing for the examination, NCC Education provides global examination papers and marking schemes from previous assessment sessions on the NCC Education Campus (see Section **Error! Reference source not found.**).

11.1 Revision Plan

Because examination papers are unseen, a well-structured revision plan must be incorporated into the learning timetable at the Accredited Partner Centre during the 12-week semester (full-time study period). A revision plan must be produced and followed by each student in order for them to develop their own knowledge and understanding, which they will then be able to demonstrate in the examination.

Revision should not be a last minute attempt to make up for poor study habits during the previous 12 weeks. Students should work consistently, always aware of the forthcoming examination, and allow time to revise accordingly.

11.2 Revision Tips

Students should:

- Ensure that they know the format of the examination paper; formats vary between modules. Some papers allow a student a free choice of questions, others allow no choice.
- Ensure that they are organised. Notes taken during teaching periods should be easy to follow and well organised. Paperwork should be neatly filed and clearly labelled. Lists of reading and references should be maintained.
- Review past examination papers. Students are advised to attempt to answer questions from earlier papers.
- Keep a revision plan, which indicates the work that has been done and what is still to be done.
- Not let work pile up.

- Read through notes periodically. Notes should be used to form an overview of the module as it progresses. Material that is presented later in a module is often reliant on a student having a good understanding of the material from earlier in the module.
- Try to identify especially difficult or confusing parts of a module. These parts should be reviewed with reference to notes, text books and other resources (e.g. the Web). Students may also get advice from teaching staff, but must remember not to leave it too late to get advice.
- Ensure all exercises are completed as soon as possible and, throughout the teaching period, attempt past examination questions as soon as the relevant material has been taught.

11.3 Examination Writing Tips

Attention should be paid to the number of marks awarded for each question as this often gives some indication as to how much information is expected in the answer and the time to be spent. A part-question that is assigned 2 marks generally requires a considerably less detailed answer than one that is assigned 10 marks. In the examination it is essential to ensure that not too much time is spent on one question, leaving insufficient time to complete the examination paper properly.

Students must ensure they comply with the following when sitting an examination:

- The required details on the initial page of the examination paper are completed.
- All answers are written as per the instructions on the examination paper.
- All answers are written legibly in ink (not pencil) in the answer booklet provided.
- The required number of questions is answered in the given time. If the paper requires four questions to be answered, a student should attempt four questions.
- Where a choice of questions is given, the student should not exceed the number of questions to be answered. For example, in a section of an examination paper that states that any two questions should be answered from a choice of four, the student should only answer two questions. No credit will be given for answering additional questions.
- Work which is not to be marked should be crossed out.

12. References

Anderson, L.W. and Krathwohl, D.R. eds. (2001), *Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, Longman, New York.

Appendix A: Assessment Criteria

NCC Education New Grading Scheme: NCC Education will implement a new Grading Scheme for all diploma level awards including the International Foundation Year. This will be gradually introduced as we implement each new programme on our new NCC Education CRM system, and the specific dates when this will be implemented will be announced. The assessment criterion that follows provides a simple guide to future students and lecturers when marking and interpreting assessments.

International Advanced Diploma in Computer Studies	Mark awarded	
<p>DISTINCTION (A) Distinction level work is relatively rare and is expected to stand out from the work of other students. Not many students will achieve a distinction.</p> <ul style="list-style-type: none"> - directly addresses the question or problems raised - provides a coherent argument displaying an extensive knowledge of relevant information - evaluates concepts, techniques and theory - relates theory to practice - reflects the student's own argument and is not just a repetition of standard lecture, and reference material is very accurate - provides evidence of reading beyond the required reading - shows awareness of other approaches to the problem area - has an appreciation of methodological concerns and displays an awareness of the limitations of current knowledge 	DISTINCTION	70% and above
<p>MERIT (B) This is a highly competent level of performance</p> <ul style="list-style-type: none"> - directly addresses the question or problems raised - provides a coherent argument drawing on relevant information - shows some ability to evaluate concepts and theory and to relate theory to practice - reflects the student's own argument and is not just a repetition of standard lecture and reference material - does not suffer from any major errors or omissions - provides evidence of reading beyond the required reading - displays an awareness of other approaches to the problem area 	MERIT	60% - 69%
<p>PASS (C) This is an acceptable level of performance and all competent students should expect to achieve at least this level.</p> <ul style="list-style-type: none"> - addresses the question but provides only a basic outline of relevant arguments and evidence along the lines offered in the lectures and referenced readings but with little evidence of further reading - all learning outcomes are demonstrated - answers are clear but limited - some minor omissions and inaccuracies but no major errors 	PASS	40%-59%
<p>REFERRED (D) Students attaining this level of performance should be in a small minority of those on the course</p> <ul style="list-style-type: none"> - learning outcomes have not been demonstrated - relevant points have been omitted from the answer - there are errors in the answer - parts of the question remain unanswered - answers may be too brief and possibly in note form 	REFERRED	0%-39%

Appendix B: Academic Dishonesty and Plagiarism Policy

Principle

The principle to be applied is that no student shall obtain, or attempt to obtain, an advantage in assessment through unfair or improper means. Any such attempts shall be deemed to be in contravention of the regulations governing NCC Education's academic qualifications and subject to disciplinary action by NCC Education. This document is designed to explain what plagiarism is, why it brings severe penalties to the student, and how to avoid it.

What plagiarism is:

Using someone else's work as your own, without citing the source.

This includes direct copying, rephrasing, and summarising, as well as taking someone else's idea and putting it into different words. Cutting and pasting paragraphs from different websites is the same as handing in a paper downloaded from the internet, both are examples of plagiarism.

Examples

The following are provided as examples of **dishonesty** or **plagiarism**.

A Examinations

1. Taking of unauthorised material into an examination.
2. Consulting unauthorised material outside the examination hall during the examination.
3. Obtaining an unseen examination paper in advance of the examination.
4. Copying from another examinee (student).
5. Attempting to communicate with another examinee (student) during the exam.
6. Using an unauthorised calculator or other device e.g. mobile phone during the examination or storing unauthorised material in the memory of a programmable calculator or other device e.g. mobile phone which is taken into the examination.
7. Impersonation, where a substitute takes an examination, test or assignment on behalf of the student.

B Course work and Project work

8. Falsifying data in experimental results.
9. Copying course work or project work from another person or source.
10. Collusion to present joint work as the work solely of one individual.
11. Plagiarism, where the work or ideas of another, are presented as the student's own.

C Other

12. Bribery or attempted bribery of a person thought to have some influence on the student's assessment.
13. Any other conduct calculated to secure an unfair or improper advantage in an assessment.
14. If you share your coursework or examination paper with another student and he or she plagiarises it, you are considered as guilty as the one who has plagiarised your work, since you enabled the plagiarism to take place. Under no circumstances should a student make his or her coursework or examination paper available to another student unless the instructor gives explicit permission for this to happen.
15. It is also an offence under the regulations to knowingly assist in any or all of the above.

Plagiarism is a serious academic offence and NCC Education will discipline students for committing plagiarism. Students who plagiarise, including anyone who enabled the plagiarism to take place, are likely to be caught, and could be removed from completing their NCC Education award, and will not be allowed in future to take an NCC Education programme.

Students are responsible for educating themselves about plagiarism, and NCC Education advice is to avoid plagiarism at all costs.

Avoiding plagiarism

Students learn from the work of others and may quote from it without penalty.

Where direct quotation appears to a student to be appropriate s/he must ensure that quotation marks and reference to the original author are clear within the text. Essays, projects and reports will also show the referenced works in the bibliography. One of the best ways to avoid plagiarism is to ensure you use references and citations properly, using the Harvard System.

<http://library.curtin.edu.au/referencing/harvard.html>

Actions

Examinations

Any student found to be acting dishonestly or committing plagiarism will be excluded from the examination hall. The student shall countersign the irregularities report made out by the invigilator, and will have the right to send a written explanation to the Academic Standards and Quality Manager at NCC Education, The Towers, Towers Business Park, Wilmslow Road, Didsbury, Manchester, M20 2EZ, United Kingdom within 24 hours. The student's explanation, along with all other evidence, shall be forwarded to the Awards Panel for due consideration.

Course and Project Work

Where cheating or plagiarism is suspected with the course work or project work submitted by a student, then all the evidence will be collected and sent to the Chief Moderator who will undertake a formal investigation and hold a review hearing.

Outcome

The Awards Panel shall make a decision on all of the available evidence. The Awards Panel decision shall be final and binding.



Statement and Confirmation of Own Work

Programme Qualification Name:

All submitted work must have this form as the cover/first page. Please include this form as part of a standard format when submitting an assignment.

Student Declaration

I have read and understood NCC Education's regulations on plagiarism.
I can confirm the following details:

Student ID/Registration Number:

Name:

Module Name:

Title of Work:

Module Leader:

Number of Words:

I confirm that this is my own work and that I have not plagiarised any part of it. I have also noted the grading criteria and pass mark for assignments.

Due Date:

**Student Signature
& Submitted Date:**

Appendix C: Academic Appeals Regulation



The purpose of this regulation is to safeguard the interests of registered students on NCC Education programmes. It should be used only when there are adequate grounds for doing so, as specified in the section below titled, 'Grounds for Appeal' and not simply if a student is dissatisfied with the outcome of his/her assessment or other decision concerning their academic position of progress.

An application for appeal may be made by a student if it is felt that one of the following actions occurred in the procedure following completion of the assessment. This is applicable to any Global Examinations, Local Examinations, Global Assignments or any other work which counts towards the overall mark for the module/programme as stated in the programme syllabus.

Students must be aware that programmes in collaboration with University partners may be subject to the University's own Academic Appeals Regulation. For clarification of this, please refer to the Programme Handbooks or contact NCC Education Support Services.

Grounds for Appeal

Special Circumstances:

1. There exists or existed personal circumstances affecting the student's performance of which, for good reason, the individual(s) or assessment board may not have been aware when the final decision concerning the awarding of marks was taken and which might have a subsequent effect on the decision.

Note: If a student wishes to appeal on such grounds then they must lodge a Special Circumstances claim and complete the NCC Education Special Circumstances form as found in the Programme Handbooks and also available from NCC Education Support Services directly. This must be done within twenty working days (Monday – Friday) of the official notification of results by NCC Education to the Accredited Partner and sent to;

Support Services
NCC Education
The Towers
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2EZ
United Kingdom

2. That there may have been an administrative or procedural irregularity in the assessment process or in effectively following the regulations of the programme, which causes significant doubt as to whether the final decision may have been different if the irregularity had not occurred.

Note: An appeal which questions the academic or professional judgement of those charged with the responsibility for assessing a student's academic performance or professional competence shall not be permitted.

Academic Appeals Procedure

1. Before submitting an appeal, a student is strongly advised to discuss this matter with his/her teacher, supervisor, programme director or other appropriate person at the Accredited Partner Centre. For any student studying on an online programme with NCC Education, they should discuss this matter with their Module Leader in the first instance and then the appropriate person at the Accredited Partner Centre, if necessary.

2. If a student still wishes to lodge an appeal they must complete the NCC Education Academic Appeals Form (Appendix 1 in this regulation document) and submit the appropriate fee. The Accredited Partner Centre must submit this to Support Services at NCC Education on the student's behalf at the address below:

Support Services
NCC Education
The Towers
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2EZ
United Kingdom

Note: The student should submit any documents relevant to the appeal with the official NCC Education Academic Appeals Form.

3. An appeal must be made within twenty working days (Monday- Friday) of the official notification of results by NCC Education to the Accredited Partner Centre.
4. Support Services will acknowledge receipt of the appeals form and supporting evidence via email to the Accredited Partner Centre and then pass this onto the Academic Standards and Quality Manager who will:
 - a) Initially consider whether the appeal covers either one of the grounds for appeal listed above.
 - b) If the appeal does not, then the Accredited Partner Centre will be notified within ten working days of the appeal being received.
 - c) It is the responsibility of the Accredited Partner Centre to inform the student immediately of this decision.
 - d) There shall be no opportunity for the student to appeal against this decision.
5. If either one of the grounds for appeal listed above has been identified then an investigation will take place to try to:
 - a) Identify relevant matters which were not known to the original individual(s) or assessment board marking/moderating the work in making the final decision or;
 - b) Identify that there had been procedural or administrative irregularities which might have affected the decision. In this instance the case shall be referred back to the original individual(s) or assessment board for reconsideration, taking into account the new information and any guidance from those reviewing the appeal. These individuals will have the authority to confirm or alter the original decision. There shall be no opportunity for the student to appeal against the decision of the individual(s) or assessment board.
6. If during the appeal serious or complex matters were raised which require further investigation and enquiry the case will then be put forward to other individuals at NCC Education on an Appeals Panel.
 - a) The Accredited Partner Centre will be given ten working days (Monday – Friday) notice of the date and time of the Appeals Panel and they must communicate this to the student immediately.

A Chief Examiner, who was not present at the Assessment Board when the original decision regarding the marks was made, will chair the Appeals Panel which will also include the Chairman of the Academic Board, or his representative, and the NCC Education Director of Academic Standards and Quality. The Secretary to the Academic Board shall act as Secretary to the Appeals Panel and keep a record of the proceedings.
 - b) The student may attend the panel and be accompanied at the meeting by a fellow student, or member of staff from the Accredited Partner Centre or NCC Education. If the

student does not attend the panel the appeal will still be heard. The student, via the Accredited Partner Centre, will be sent copies of all documents made available to the Panel who have the authority to call any individuals who may have useful information in regard to the case. The Accredited Partner Centre must send all documents to the students immediately.

7. Having considered the evidence, the Appeals Panel may:
 - a) Reject the appeal, in which case the student, via the Accredited Partner Centre will be given reasons for this. If the appeal is rejected there is no further right to appeal by the student, or
 - b) Refer the case back to the original individual(s) or assessment board for reconsideration taking into account the new information and any guidance from those reviewing the appeal. These individuals will have the authority to confirm or alter the original decision. There shall be no opportunity for the student to appeal against the decision of the individual(s) or assessment board, or
 - c) Revoke the original decision of the individual(s) or assessment board who marked/moderated the assessed work and allow the student the opportunity to satisfy the assessment requirements for continuation on the programme or element of the programme concerned.
8. Students, via the Accredited Partner Centre, will be notified of the outcome of the Appeals Panel in writing up to five working days after the panel has met. The decision of the Appeals Panel is final and cannot be appealed against.
9. If the appeal is upheld then the appropriate appeal fee will be refunded to the student.

Academic appeals against original appeals decision

If the student is dissatisfied with the final decision made following the appeals procedure detailed above, then they may appeal against this decision within five working days of the decision being released to the Accredited Partner Centre by NCC Education.

1. The Accredited Partner Centre must submit further evidence in support of the re-appeal on behalf of the student, and the appropriate fee must be included, to the address below.

Support Services
NCC Education
The Towers
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2EZ
United Kingdom
2. Any NCC Education programmes subject to a re-appeal will be dealt with by the necessary individuals as deemed appropriate by NCC Education at the assessment board.
3. Any programmes validated or awarded by a University partner subject to a re-appeal will be dealt with in conjunction with the University.



Appendix 1 Academic Appeals Regulation Form

This form must be completed by the Accredited Partner Centre on behalf of the student who wishes to appeal on either one of the grounds listed in the NCC Education Academic Appeals Regulation. This regulation is applicable to any Global Examinations, Local Examinations, Global Assignments or any other work which counts towards the overall mark for the module/programme as stated in the programme syllabus.

Students must be aware that programmes in collaboration with University partners may be subject to the University's own Academic Appeals Regulation. For clarification of this, please refer to the Programme Handbooks or contact NCC Education Support Services.

An appeal must be made within twenty working days (Monday- Friday) of the official notification of results by NCC Education to the Accredited Partner Centre.

Any supporting evidence must be submitted with this form as well as the appropriate fee.

Please provide the following information per module relevant to the appeal being brought forward.

Accredited Partner Centre (APC) Name	
Contact name and position at APC	
Address of APC	
Full name of student	
Student NCC Education ID number	
Programme Title	
Module Title	
Type of assessment	
Date of assessment sat or submitted	
Title of Global Assignment/Local Examination/Global Examination or work which contributes to the final mark for the module as detailed in the Programme Syllabus	
Date Academic Appeal submitted to NCC Education	

Please tick the box(es) to confirm the grounds for appeal in which the appeal is being brought forward.

There exists or existed personal circumstances affecting the student's performance of which, for good reason, the individual(s) or assessment board may not have been aware when the final decision concerning the awarding of marks was taken and which might have a subsequent effect on the decision.

Note; If a student wishes to appeal on such grounds then they must lodge a Special Circumstances claim and complete the NCC Education Special Circumstances form as found in the Programme Handbooks and also available from NCC Education Support Services directly. This must be done within twenty working days (Monday – Friday) of the official notification of results by NCC Education to the Accredited Partner Centre.

That there may have been an administrative or procedural irregularity in the assessment process or in effectively following the regulations of the programme, which causes significant doubt as to whether the final decision may have been different if the irregularity had not occurred.

Please write details and attach any evidence in support of the appeal being brought forward in the space below. Please use additional paper if necessary.

Signature of student: _____

Date: _____

This form and supporting evidence should be sent to;

Support Services
NCC Education
The Towers
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2EZ
United Kingdom

Appendix D: Guide to Referencing and Bibliography



A Guide to Harvard Referencing

Referencing is a way of acknowledging that you have used the ideas and written material belonging to another author. It demonstrates for example, that you have undertaken an appropriate literature search and that you have carried out appropriate reading around the subject matter.

NCC Education prescribes the use of Harvard Referencing as it is widely used internationally, and this guide is intended to help you with referencing your work. The following are examples of sources you may wish to access and therefore need to reference:

- Books
- Journal articles
- Electronic journal articles
- World Wide Web pages
- Newspapers

Why is it necessary?

- The readers of your assignments need to be able to trace the sources you have used in the development of your work.
- If you do not acknowledge another author's work or ideas, you could be accused of plagiarism.
- Accurate referencing is part of good academic practice and enhances the presentation of your work.

What is citing?

When you have used an idea from a book, journal article, etc. you must acknowledge this in your text. We refer to this as 'citing'.

Citing in the body of the text

When you cite a piece of work, you must always state the author/editor and the date of publication. If the work has two authors/editors you must cite both names. Only include the names and date, do not include the title, place of publication, etc. Full details of the reference should be written in your bibliography at the end of your essay.

Example – One author:

The work of **Smith (2001)** highlights the conflicting results of research carried out by Jones and Lewis.

Example – Two authors:

The work of **Thatcher & Blake (2004)** highlights the conflicting results of research carried out by Jones and Lewis.

If the work has three or more authors/editors, the abbreviation 'et al' should be used after the first author's name.

Example:

The work of **Smith et al (2001)** highlights the conflicting results of research carried out by Jones and Lewis. **Thatcher & Blake (2004)** however, considered that

If you are summarising or paraphrasing the proposition of an author, you must show that in your work.

Example:

... Many people believe that the Americanisation of the media, and what is called 'dumbing down', is having disastrous effects on the English language. One response to this is that language change is natural, so there is no reason for people to condemn it (**Aitchison, 1981 p.16**). Aitchison clearly views changes in language as neither good nor bad, merely inevitable...

If you cite a reference which has the same author and was written in the same year as an earlier citation, you must use a lower case letter after the date to differentiate between the two.

Example:

The work of **Smith (2001a)** highlights the conflicting results of research carried out by Jones and Lewis.

Citing from books with multiple authors

Some books may contain chapters written by different authors. When citing work from such a book, the author who wrote the chapter should be named, not the editor of the book.

Secondary referencing

Secondary references are when an author refers to another author's work and the primary source is not available. When citing such work, both the author of the primary source and the author of the work in which it was cited should be named.

Example:

Ellis (1990) cited by Cox (1991) discusses

NB: Secondary referencing should be avoided if possible.

Quoting in the text

Often it is better to paraphrase than to use direct quotes. This demonstrates that you have understood the meaning and context of what you have read. If a direct quote from a book, article etc. is used you must:

- Use single quotation marks (double quotation marks are used for quoting direct speech)
- State the page number

Example:

Simpson (2002: p6) declared that 'the explosive behaviour was unexpected.'

- Have a separate, indented paragraph for quotes over two lines.

Example:

Boden (1998: p72) states:

'The most common female crime prosecuted at the Quarter Sessions was that of battering men. This would suggest that women were not the passive and obedient members of society that men would have liked to believe they were.'

Alternatively...

'The most common female crime prosecuted at the Quarter Sessions was that of battering men. This would suggest that women were not the passive and obedient members of society that men would have liked to believe they were.'

(Boden 1998: p72).

Alternatively...

Part of the original text may be omitted from the quotation, as long as three dots are used to indicate this.

Example:

Boden (1998: p72) states:

'The most common female crime prosecuted at the Quarter Sessions was that of battering men ...women beating or dominating a man was a particularly sensitive issue as it threatened the perpetuation of the patriarchal society ...'

Duplication of charts, diagrams, pictures etc. should be treated as direct quotes, in that the author(s) should be acknowledged and page numbers shown.

Citing and quoting from multi-media and online resources

Electronic journal (eJournal) articles

When citing from an eJournal article, the same rules apply as a paper journal, the author's surname and the publication date should be stated.

World Wide Web (WWW)

- If the website has an obvious author and date of publication, the information should be cited as in the case of a book or journal article.
- If there is not an obvious author, but the work is situated on an organisational website, the name of the organisation can be used as a 'corporate author'.

Example:

The Department of Health (2001).

If no author or corporate author is evident, use the title of the document as the main point of reference.

Producing a Bibliography

Whichever way you refer to publications in a text, it is important to provide full references in your bibliography at the end of your work. There is no point in making a bibliographical reference if the reader cannot identify exactly the work referred to. Your bibliography will demonstrate the range of your reading for a particular piece of work and can also include books, websites and academic journals which you have not cited in your work. There are minimum requirements for all bibliographical references which must be adhered to when submitting an academic piece of work.

Books

Surname, First name initial (Year of publication) *Title of Book*. Edition. Publisher, Place of publication.

NB: Only state the edition number if it is not the first.

Example:

Banks, J. (1999) *Worlds Apart*. Miami, Florida.

Ryan, L. (2001) *Nottingham – A History*. Blackwell, London.

NB: If there are three or more authors you must list every author in your reference list – **try not to** use et al.

Example:

Simpson, H. Jones, E. and Miles, C. (2000) *The History of Springfield*. 2nd edition. Bugle Press, Derby.

Chapters in books

Surname, First name initial (Year of publication) Title of chapter, **In** Editor (ed.) *Title of Book*. Publisher, Place of publication, page numbers of chapter.

Example:

Stone, T. (2002) Libraries in the Twenty-First Century. In: Woolley, M. (ed) *The Changing World of Information Retrieval*. UOL Press, Luton, pp. 23 – 45.

Books which have been translated

Surname, First name initial (Year of publication) *Title of book*. **Trans.** Name. Publisher, Place of publication

Example:

Kawanishi, M. (2003) *The History of Japan*. Trans. Brown, D. Hakodate Publishing, Hakodate.

Books written in a foreign language

Surname, First name initial (Year of publication) *Title of Book* [Title in original language], Publisher, Place of publication.

Example:

Milani, F. (1994) *The Phantom of the Opera*. [Le Fantôme De L'Opéra] LeRoux, Paris.

Journal articles

Surname, First Name initial (Year of Publication) 'Title of Article' *Name of Journal*, Volume (and number – if relevant), page numbers of article.

Example:

Prichard, J. (2006) 'Logistics and planning.' *Star Tribune*, 36, pp 44 – 49.

Brown A. and Wesley, C. W. (1995) 'An investigation of the Hawthorne effect', *Management Sciences Journal*, 42(1), pp 47-66.

eJournal articles

Surname, First name initial (Year of Publication) 'Title of article' *Title of journal* [Online], Volume number, Page numbers of the article

Available from: URL, [Date of access]

Example:

Fisher, B. (2002) 'Time to go Home', *Journal of Travelling*, [Online] 6, pp122 – 123

Available from: <http://www.alu.ac.uk> [Accessed 6th June, 2002].

Web Publication

There is no agreed standard for referencing Internet sources, but it is most important to supply the URL and date the source was accessed, due to the rapidly changing nature of the Internet.

Author

Surname, First name initial (Year of Publication) Title of webpage/article.

Available from: URL, [Date of access].

Example:

Young, J. (1996) The coherence theory of truth.

<http://www.seop.leeds.ac.uk/entries/truth-coherence/>, [accessed on 12/01/07]

No author

Name of source Year of Publication: Title of webpage.

Available on: URL, [Date of access].

Example:

BBC News 2007: Graduates 'face tough job market'.

<http://news.bbc.co.uk/1/hi/education/6252811.stm>, [accessed on 12/01/07]

Newspaper articles

Paper copy

Reporter Surname, First name initial (day, month and year of publication) Title of article, *Title of newspaper*, page numbers of the article.

Example:

Kline, J. (Friday 3rd October 2002) Skills for Leadership, *Daily Planet*, p. 27.

Note:

- Authors must be presented in alphabetical order in the bibliography, with sources from the same author(s) presented chronologically.

Plagiarism is a very serious academic offence. *The rule is that you must not represent the ideas of other people as your own.* With proper referencing and a full bibliography, this can be avoided.

Please also refer to the NCC Education Academic Dishonesty and Plagiarism Policy.

Appendix E - Special Circumstances Form

International Advanced Diploma in Computer Studies

SPECIAL CIRCUMSTANCES FORM (Student)

This form should be completed by any student who during the course of the year, experiences any special circumstances which may have an adverse effect on their academic performance. These could include: prolonged ill-health, pregnancy, bereavement, or exceptional family problems.

Wherever possible, supporting documentary evidence should be supplied. The information recorded on this form will be made available at an NCC Education internal meeting and at the Awards Panel, where applicable, and will be dealt with confidentially.

The student should complete this side of the form and pass the form to his/her Accredited Partner Centre.

NCC Student ID No:

Full Name:

Current semester:

Special Circumstances (these should be noted as briefly as possible. Any medical certificates or other documentary evidence should be attached):

Period of study affected:

Medical Certificate attached Yes/No

Signature Date

SPECIAL CIRCUMSTANCES FORM (Accredited Partner Centre)

A responsible person at the student's Accredited Partner Centre should complete this section to confirm that the student's circumstances are exceptional and have affected the student's studies.

Notes on Student's Special Circumstances

Notes on Student's Attachments (medical certificates, reports, etc)

Signature of person completing form:

Name of person completing form:

Position of person completing form:

Date: