



**PRACTICAL PROJECT GUIDELINES AND  
ASSESSMENT FORM  
(MARKING SCHEME)**

**INTERNATIONAL ADVANCED DIPLOMA  
IN  
COMPUTER STUDIES**

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## 1. Learning Outcomes

At the end of the project cycle, each student is expected to demonstrate satisfactory ability in the following skills:

1. To develop a systems project plan, requirements specification and a test plan.
2. To consider a range of information systems development methods and tools and to select appropriate methods and tools for the proposed system.
3. To develop and test an information system using modern development tools.
4. To produce documentation on the process of development and use of finished software.
5. To evaluate the methods used and the resulting system.
6. To liaise and interact with external clients.

## 2. The Suitability of Projects

The following factors need to be considered when selecting a suitable project:

### Scope

The project is substantial enough to provide the student with 24 weeks of work.

### Development tools

The development tools to be employed should also be taken into consideration. The tool may already be familiar to the student — for example if the student has already studied the language as a compulsory unit elsewhere in the course. If the tool is not familiar, the time required to learn the tool needs to be taken into account.

## 3. Project Working with External Clients

Working with external clients may require some additional items of documentation which will be assessed under “Documentation”. These include:

1. A letter of introduction from the Accredited Partner Centre to support the student.
2. A memorandum of understanding (MOU) between the student and client. This document is typically prepared soon after a client has been chosen. Its purpose is to formally establish the specific details of the project work with the intention of protecting both the client and the student. It should cover:
  - a. A specification of the system project, including expected functionality, timeline, and resources to be committed.
  - b. Confidentiality of documents which may be passed from client to student.
  - c. Liabilities of student to client in case of failure to deliver a working product.
  - d. Financial compensation or remuneration. The MOU should make clear that the student is not to be paid for any project work undertaken.

3. A client appraisal form. This form should be made available to the client at the end of the project term, with the returns passed directly back to the school or supervisor.

Many students will complain of difficulties experienced in securing such clients. Project supervisors can help through the following:

- Encouraging the students to look ‘internally’ first. For example, they can check with their family and relatives who may be interested in having ‘free’ software to use with a minimal investment of time on their part.
- Looking for clients, and assigning them to students. A good source of potential clients is the pool of past graduates of the institution who are now employed in related sectors.

## 4. Choosing the Methodology

Students undertaking the project will be required to adopt one of the following two broad methods:

- Classical life cycle
- Prototyping

Students adopting the classical life cycle may use the following timeline:

Week(s)	Project phase
1	Orientation
2 - 3	Selection of client and project Submission of project proposal
4 - 7	Analysis of current system
8 - 11	Design of new system
11	Submission of the analysis and design document
12 - 20	Coding of new system
21 - 23	Testing and debugging of new system
End of 24	Submission of implementation and testing document Submission of user manual Presentation and demonstration of completed software

Students adopting a prototyping method may use the following timeline:

Week(s)	Project phase
1	Orientation
2 - 3	Selection of client and project Submission of project proposal
4 - 7	Initial analysis and rapid design of modules (at least five modules)
8 - 23	Cyclical prototyping of modules
End of 24	Submission of the system document Presentation and demonstration

There are advantages and disadvantages associated with the adoption of either methodology. Students adopting the classical life cycle are given a slower start with more time for preparatory work and the learning of development tools and languages. However, the tendency for project failure in terms of unfinished software can be higher, as is growing inertia in the post-documentation project phases. Students adopting prototyping methods often will find the initial going much harder, since they are expected to present selected modules at the initial stage of the project. However, these students are also much more likely to successfully complete the project unit satisfactorily.

## 5. Assessment

### 5.1 Mark allocation

The allocation of marks varies according to the methodology chosen.

#### Classical life cycle:

	Assessment item	Weight
1.	Documentation	45%
2.	Progress	20%
3.	Product (Demonstration)	25%
4.	Presentation	10%
	Total	100%

#### Prototyping:

	Assessment item	Weight
1.	Documentation	30%
2.	Progress	20%
3.	Product (Demonstration)	40%
4.	Presentation	10%
	Total	100%

## **5.2 Assessment items**

### **5.2.1 Documentation**

Regardless of the methodology adopted by the student, there are several items of documentation which are common to both and should be expected as deliverables from all students. They include:

1. A project proposal
2. An analysis and design document/system document
3. An implementation and testing document
4. A user manual

A suggested content list for each of these documents is as follows.

#### **Project proposal**

The proposal is the initial document prepared by the student. The proposal would typically include:

1. Introduction to the student, client, and system to be investigated/created.
2. Explanation of project necessity: for example, a description of the current system and its problems, leading to the need for a new system.
3. Initial statement of proposed system: this will include a preliminary functional specification for the proposed system.
4. Development specification: this will include evaluation of a range of information system development methods and tools; justifications for the chosen methodology and development tools, resources needed, and a project plan indicating milestones and deliverable dates.

The document should be about 10 pages long, comprising about 2500 to 3000 words. The proposal must be approved by the supervisor before starting on analysis and design.

#### **Analysis and design document/ System document**

There are two main sections in this document: the analysis section presents the outcome of a more detailed investigation of the project post-proposal. It will usually comprise the findings accumulated through a cycle of fact-finding and analysis of the information provided to discover how the existing system should be improved through the new system. An analysis section would typically include:

1. Fact-finding: a description of the tools used (for example observation, interview), and issues or problems faced in the fact-finding.
2. Description of the current system(s): this would be factual descriptions on 'what' has been discovered. Descriptions should be supported by diagrammatic representations (for example data or process flow diagrams).
3. Analysis of the current system, leading to project necessity: this could include criticisms of the current system (for example its problems or limitations), which in turn give rise to the motivation for a new, and better system.
4. Requirements specification: this should be a precisely stated functional specification for the proposed system. It could be of this format:

- 4 Customer Maintenance Module
  - 4.1 Add customer record
  - 4.2 Delete customer record
  - 4.3 Edit customer record
  - 4.4 Print customer report
    - 4.4.1 Sorted by selected fields: for example name
    - 4.4.2 Filtered by fields: for example age range

*Continued as appropriate.*

Some students may attempt to build 'prototypes' that they claim are not based on a current system. However, this should be taken to mean that these students do not need to undertake analysis. In these cases, the analysis document should cover similar systems which may possess similar characteristics to the one proposed, with the emphasis on an explanation of *why* there is a need for the proposed system.

The design section presents a high-level implementation perspective of system creation. Depending on the development approach adopted, the contents of the design section can vary substantially from one student to the next. One possible model is as follows:

5. Description of the new system: this will include descriptions supported by diagrammatic representations of data and/or process flows of the proposed system.
6. High-level implementation: this section could include:
  - Data design: representations of the data and entity-relationship models for the proposed system.
  - Architectural design: representations pertaining to structural aspects of system components, for example structure chart or program structure diagrams.
  - Procedural design: selected processes of the new system can be presented in procedural form (for example flow-chart, pseudo-code).
  - Interface design: layouts and screen templates.

Due to the proliferation of visual development tools, the tendency for students to produce voluminous screen shots and place lesser emphasis on other design aspects, particularly data design, will be high. In a sense, while screen shots of software do indicate some work towards software creation, this aspect of the software in any student project is likely to undergo the most revision until actual software delivery. Moreover, there will be a strong tendency for students to create unique looking screens that differ from one part of the software to the next. Project supervisors may wish to remind students that professionally developed software invariably uses screens that are consistent from one part of the software to another. As such, the interface design section in this document should include screen layouts or templates, as opposed to numerous screen shots. A screen layout will illustrate the principal and most common components of screens used in the software. For example, three types of screens used in a typical information system would include:

- Navigation: e.g. switchboard menus and submenus
- Input: e.g. form-based screens
- Output: e.g. reports or other on-screen display screens

A template for each of these three types can be included in interface design, and supported with further descriptions.

It is helpful if students annotate screen design with comments explaining their rationale, for example by using Microsoft Word's insert comment option or a text box.

The analysis and design document should be about 20-30 pages long, comprising about 6000 to 7000 words.

### **Implementation and testing document**

The implementation document is the outcome of code creation and low-level implementation of the constructs and representations from the design document.

1. Low level implementation: this section should include:
  - Coding standards: descriptions of standardised variables, notation, or subroutine names.
  - Code sampling: code/script etc. created to deal with algorithms or procedures of interest can be included here. Code samples should be supported with descriptions.
2. Testing: this section should include:
  - Testing strategy employed.
  - Test log sample.
  - Analysis of test results and conclusion as to whether test results were satisfactory or not.
3. Installation:
  - Exit strategy: this describes how the student intends to hand over the completed software to users. This section typically includes a system conversion schedule and user training plan.
4. Final documents
  - High-level description of completed software and system.
  - Evaluation of the methods and tools used and of the completed system.
  - Summary of project work, closing statements and feedback.

The document should be about 20-25 pages long, comprising about 3500 to 4500 words.

While project supervisors may prepare their own guidelines, they should bear in mind that there will be a tendency for students to produce copious representations, for example, substantial sections of code or numerous data flow diagrams. DFDs should go no further than level 2 DFDs, and code listings should be placed in an appendix. While such representations are useful and necessary elements of system documentation, equally important are **explanations** for why a system process or component has been designed or implemented in a particular way. It is important that code samples are annotated to explain their rationale.

### **User manual**

The user manual is a particularly crucial document if the student is working with external clients. Two possible types of user manuals are:

1. A business process-oriented manual: such a manual typically identifies central business processes of the client operation and provides a step by step guide to aid a user in undertaking each process using the new software.
2. A user reference manual: such a manual is typically organised in a software module hierarchy—for example with the main task modules described first, followed by the sub-task modules. The use of Hierarchical Task Analysis (HTA) diagrams can help to illustrate this.

### **General remarks about documentation**

While the documents in the project unit are technical system documents, students should be encouraged to reflect on and understand the development process, as well as the lessons learnt. Hence, a significant component of any document required of the student should be justifications and explanations of *why* the system was designed that way. For instance, why was a particular development tool chosen and not others? Or why was an interface component designed in a certain way? Some students may be tempted to reproduce in such descriptions, material from already published work, with appropriate referencing. For example, the advantages and disadvantages of a prototyping method are well-known and documented. Project supervisors may need to pay particular attention to such reproduction of material and advise their students to think about how these general characteristics really do apply to their respective projects.

### **Referencing**

Referencing standards should be adhered to wherever previously published material is included or used in the document. The standard of referencing to be used in the document is the Harvard (name and date) system of referencing. Students may refer to the 'Guide to Referencing and Bibliographies', Appendix A, when using this system of referencing.

### **5.2.2 Progress**

Supervisors will be required to regularly monitor the progress of their students. As a rule, supervisors should remain in formal contact, for example through meetings with the students at least once a fortnight. The duration of each progress meeting will vary, but as a rule it should be from 30 to 45 minutes, possibly more, depending on the nature of the project undertaken and the ability of the student.

For each progress meeting, a project progress report is necessary. This document is a short report prepared by the student and will contain the following:

1. A statement of work completed.
2. A forecast of work to be completed.
3. An updated project plan.

In order to properly monitor the progress of each student, supervisors should require project students to present statements of work which has been completed and is to be completed.

During the meeting, project supervisors should actively compare these statements of progress with the actual work done. Students are required to produce evidence of their work, and should be encouraged to demonstrate continually improving versions of their software on notebooks or computers at the site of the project meeting. Generally, each student should be expected to spend about eight to ten hours per week in project work.

As a guideline, project supervisors are expected to have a minimum of five formalised contact meetings with each student, with each meeting contributing marks to the Progress score.

### **5.2.3 Presentation**

A presentation has to be held before the final submission. The intention of the presentation is to properly examine each student to ascertain their knowledge of the development process and the software created. This presentation should only include the student and the supervisor. Typically, the presentation will also include comments on project initiation, the characteristics of the finished product, the key 'selling' points of the products and methodology adopted.

### **5.2.4 Product (Demonstration)**

A completed software system is expected at the end of the project cycle. One model of product assessment is to put the student through a demonstration of the system. The target audience of this demonstration will be the supervisor plus the client or other interested parties, for example academic staff.

## **6. Marking**

The marking scheme used in the project unit is a prescriptive-based scheme that allocates specific marks to elements of each specific stage of development. Supervisors should note at the outset that there is a chance that some students will become 'assessment smart' and write their document according to these guidelines, regardless of its suitability to their project. Moreover, it is possible in prescriptive-based schemes to award a document a mark that does not accurately represent the real competency of the student. As such, the mark allocation in assessment should be regarded as a general set of guidelines whose suitability should be determined by the supervisor for each project. A detailed mark allocation is included in the Project Assessment forms in this document.

In all cases, one useful method of validating the mark awarded in the prescriptive-marking scheme used here, is to compare the mark awarded with a more holistic criteria-based scheme. The following tables represent a criteria-based scheme, and supervisors may wish to compare the marks they award with these tables.

## 6.1 Documentation

Mark range		Descriptor	Criteria
Classical Life Cycle	Prototyping		
Less than 16	Less than 10	Poor failure	<ul style="list-style-type: none"> <li>▪ Documents submitted do not meet expectations in terms of completeness.</li> <li>▪ Documents are submitted late.</li> <li>▪ Documents are barely readable and contain significant errors.</li> <li>▪ Documents bear little or no relation to actual product.</li> </ul>
16 - 18	10 - 12	Marginal failure	<ul style="list-style-type: none"> <li>▪ Documents submitted do not meet expectations in terms of completeness.</li> <li>▪ Documents are often submitted late.</li> <li>▪ Documents are barely readable and contain significant errors.</li> <li>▪ Documents bear little relation to actual product.</li> </ul>
19 - 22	13 - 15	Marginal pass	<ul style="list-style-type: none"> <li>▪ Documents submitted barely meet expectations in terms of completeness.</li> <li>▪ Documents are submitted timely or were occasionally late.</li> <li>▪ Documents are barely readable and contain noticeable errors.</li> <li>▪ Documents bear some relation to actual product, but significant parts are not in synchronisation.</li> </ul>
23 - 27	16 - 18	Average pass	<ul style="list-style-type: none"> <li>▪ Documents submitted meet expectations in terms of completeness.</li> <li>▪ Documents are submitted timely.</li> <li>▪ Documents are readable and illustrated but contain some errors.</li> <li>▪ Documents bear some relation to actual product, but some parts are not in synchronisation.</li> </ul>
28 - 31	19 - 21	Good pass	<ul style="list-style-type: none"> <li>▪ Documents submitted meet or somewhat exceed expectations in terms of completeness.</li> <li>▪ Documents are submitted timely.</li> <li>▪ Documents are readable and well-illustrated but contain some minor errors.</li> <li>▪ Documents bear close relation to actual product.</li> </ul>
31 - 45	22 - 30	Excellent pass	<ul style="list-style-type: none"> <li>• Documents submitted meet or substantially exceed expectations in terms of completeness.</li> <li>• Documents are submitted timely or early.</li> <li>• Documents are highly readable, well-illustrated, succinct and error-free.</li> <li>• Documents are in synchronisation with completed product.</li> </ul>

## 6.2 Progress

Mark range		Descriptor	Criteria
Classical Life Cycle	Prototyping		
Less than 7	Less than 7	Poor failure	<ul style="list-style-type: none"> <li>• Student has not shown adequate progress throughout the semester.</li> <li>• Student has missed several project meetings</li> <li>• Progress is not documented in the progress report.</li> </ul>
7 - 8	7 - 8	Marginal failure	<ul style="list-style-type: none"> <li>• Student has not shown adequate progress throughout the semester.</li> <li>• Student has missed a few project meetings.</li> <li>• Progress is not documented in the progress report.</li> </ul>
9 - 10	9 - 10	Marginal pass	<ul style="list-style-type: none"> <li>• Student has shown progress that barely meets the requirement at this level.</li> <li>• Student has attended meetings.</li> <li>• Progress is documented in the progress report.</li> </ul>
11 - 12	11 - 12	Average pass	<ul style="list-style-type: none"> <li>• Student has shown steady progress throughout the semester.</li> <li>• Progress is documented in the progress reports.</li> </ul>
13 - 14	13 - 14	Good pass	<ul style="list-style-type: none"> <li>• Student has shown good progress throughout the semester.</li> <li>• Progress is well-documented in the progress reports.</li> </ul>
15 - 20	15 - 20	Excellent pass	<ul style="list-style-type: none"> <li>• Student has shown progress that meets or exceeds standards required at this level.</li> <li>• Progress is well-documented in the progress reports.</li> </ul>

## 6.3 Presentation

Mark range		Descriptor	Criteria
Classical Life Cycle	Prototyping		
0 -1	0 -1	Fail	<p>Unacceptably low presentation content at an inappropriate technical level:</p> <ul style="list-style-type: none"> <li>• Unclear or unsure about project aims;</li> <li>• No plan for the work yet to be done;</li> <li>• Poor and inadequate presentation with unacceptably low use of visual materials;</li> <li>• Poor or no real understanding of various issues of the project;</li> <li>• Failure in answering any questions.</li> </ul>
2 – 3	2 – 3	Marginal pass	<p>Acceptable presentation materials at a fairly appropriate technical level:</p> <ul style="list-style-type: none"> <li>• Vague about project aims;</li> <li>• Unclear about the work yet to be done;</li> <li>• Presentation is not sufficient in content and little use of visual materials;</li> <li>• Weak understanding of issues of the project;</li> <li>• Poor performance in answering questions.</li> </ul>
4 -5	4 -5	Average pass	<p>Reasonable presentation content at an almost appropriate technical level:</p> <ul style="list-style-type: none"> <li>• Partially clear about project aims;</li> <li>• Not very clear about all the work yet to be done;</li> <li>• Presentation is of an acceptable standard and logically structured, with good use of visual materials;</li> <li>• Understanding of some issues of the project;</li> <li>• Fair performance in answering questions.</li> </ul>
6 – 7	6 – 7	Good pass	<p>Good presentation content at an appropriate technical level:</p> <ul style="list-style-type: none"> <li>• Generally clear about project aims;</li> <li>• Generally clear about the work yet to be done;</li> <li>• Presentation is generally well organised with very good use of visual materials;</li> <li>• Good understanding of major issues of the project;</li> <li>• Competent in answering questions.</li> </ul>
8 – 10	8 – 10	Excellent pass	<p>Presentation content is exemplary, outstanding and at a very appropriate technical level:</p> <ul style="list-style-type: none"> <li>• Very clear about what the project is to achieve and why it is worthwhile;</li> <li>• Clear about work yet to be done;</li> <li>• Presentation is very well-organised and structured with excellent use of visual materials;</li> <li>• Very competent in answering questions;</li> <li>• Clear understanding of all major issues of the project.</li> </ul>

## 6.4 Product (Demonstration)

Mark range		Descriptor	Criteria
Classical Life Cycle	Prototyping		
Less than 9	Less than 14	<ul style="list-style-type: none"> <li>Poor failure</li> </ul>	<ul style="list-style-type: none"> <li>Product is unusable.</li> <li>Product does not have a help subsystem.</li> <li>Product uses interfacing that is inconsistent.</li> <li>Product is unstable and constantly runs into errors.</li> </ul>
9 - 10	14 - 16	Marginal failure	<ul style="list-style-type: none"> <li>Product is nearly unusable.</li> <li>Product does not have a help subsystem.</li> <li>Product uses interfacing that is inconsistent.</li> <li>Product is unstable and constantly runs into errors.</li> </ul>
11 - 13	17 - 20	Marginal pass	<ul style="list-style-type: none"> <li>Product barely meets expectations.</li> <li>Product does not have a help subsystem.</li> <li>Product uses interfacing that is inconsistent.</li> <li>Product is nominally stable and runs into frequent errors.</li> </ul>
14 - 15	21 - 24	Average pass	<ul style="list-style-type: none"> <li>Product somewhat meets expectations.</li> <li>Product has a simplistic help subsystem.</li> <li>Product uses interfacing that is usable but lacks general consistency.</li> <li>Product is somewhat stable but has some noticeable errors.</li> </ul>
16 - 17	25 - 28	Good pass	<ul style="list-style-type: none"> <li>Product meets expectations.</li> <li>Product has a usable help subsystem.</li> <li>Product uses consistent interfacing.</li> <li>Product is generally stable and has just some minor software errors.</li> </ul>
18 - 25	29 - 40	Excellent pass	<ul style="list-style-type: none"> <li>Product meets or exceeds functional expectations.</li> <li>Product has comprehensive help subsystems</li> <li>Product uses consistent interfacing.</li> <li>Product is stable and generally error-free.</li> <li>Product is of unusual scope or type.</li> </ul>

## 7. Requirements for a Pass in the Project Unit

The requirements for a student to obtain a pass in the project unit in the semester are as follows:

- At least five contact meetings with the project supervisor.
- An accumulated score of 40% or more in the total project mark.

A failure in the project is always a serious situation, and students who have consistently performed below expectations through the course of their project work should be reminded of their responsibilities and given a warning. In other words, a failure in the project should not come as a surprise to any student.

## 8. General Remarks on Supervision and Assessment

It is necessary for project supervisors to advise students at the outset that they will be assessed on their abilities to undertake all aspects of the development cycle, including documentation.

Students should be encouraged to undertake 'real life' projects.

Past experience has revealed that some students attempt to develop information systems based on imaginary clients. In other words, their requirements specification is derived from what they (as student developers) believe is appropriate for information systems of that type. While it is possible for system software development to be undertaken with imagined functional specifications, students who go this route are missing a significant component of the project experience — interacting and liaising with genuine and external clients. The challenges they could face and learn from include:

- Perusing client-produced documentation to understand system processes.
- Attending client meetings prepared with questions to ask on system processes, as opposed to having functional specifications produced for them without effort or inquiry.
- Optimising their contact with clients, who frequently will have limited available time.

Project supervisors should check for active correlation between documents and created software.

- One common problem observed in students is the lack of correlation between documents and software, i.e. the system documentation does not accurately reflect what has been created in the software. Project supervisors may wish to regularly compare the system documentation to the actual software, during the formal meetings.

## 9. Project Assessment Forms

- Classical Life Cycle Project
- Prototyping Project
- Presentation
- Client Appraisal Form



# Project: Assessment Form for Classical Life Cycle Projects

Student Name \_\_\_\_\_

Title of Project: \_\_\_\_\_

Supervisor: \_\_\_\_\_

## Documentation (45%)

Documentation Item		
<b>1.</b>	<b>Project proposal (10%)</b>	
	- Introduction to the system to be investigated/created (5 marks)	
	- Project necessity (10 marks)	
	- Proposed system (20 marks)	
	- Development specification (15 marks)	
	<b>Mark for project proposal = total mark for (1) /5</b>	
<b>2.</b>	<b>Analysis and design document (20%)</b>	
	- Fact-finding (10 marks)	
	- Description of current system (15 marks)	
	- Analysis of current system (15 marks)	
	- Requirements specification (10 marks)	
	- Description of new system modules (20 marks)	
	- High-level implementation (30 marks)	
	<b>Mark for system document = total marks for (2)/5</b>	
<b>3</b>	<b>Implementation and testing document (10%)</b>	
	- Low-level implementation (20 marks)	
	- Testing (10 marks)	
	- Installation (10 marks)	
	- Final document (10 marks) <ul style="list-style-type: none"> <li>- High level description of completed software and system</li> <li>- Evaluation of the methods and tools used and of the completed system</li> <li>- Summary of project work, closing statements and feedback.</li> </ul>	
	<b>Mark for implementation and testing document = total marks for (3)/5</b>	
<b>4</b>	<b>User Manual (5%)</b>	
<b>Final mark for documentation:</b>		

**Progress – meeting with supervisor (20%)**

Meeting score (each up to 4%)					
#1	#2	#3	#4	#5	Total

**Presentation (10%)**

Score: \_\_\_\_\_%

**Product (25%)**

	Assessed through demonstration of the product	
	<b>Product characteristic (25%)</b>	
1.	Functionality / compliance to requirements (20 marks)	
2.	Help subsystems (10 marks)	
3.	Interfacing (10 marks)	
4.	Reliability and stability (10 marks)	
	<b>Final mark for product = total/2</b>	

**Final marks**

<b>Documentation (45%)</b>	<b>Progress (20%)</b>	<b>Presentation (10%)</b>	<b>Product (25%)</b>	<b>Total (100%)</b>

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# Project: Assessment Form for Prototyping Projects

Student Name: \_\_\_\_\_  
 Title of Project: \_\_\_\_\_  
 Supervisor: \_\_\_\_\_

## Documentation (30%)

Documentation Items:		
<b>1.</b>	<b>Project proposal (5%)</b>	
	- Introduction to the system to be investigated/created (5 marks)	
	- Project necessity (10 marks)	
	- Proposed system (20 marks)	
	- Development specification (15 marks)	
	<b>Mark for project proposal = total of (1)/ 10</b>	
<b>2.</b>	<b>System document (12.5%)</b>	
	- Fact-finding (5 marks)	
	- Description of current system (10 marks)	
	- Analysis of current system (10 marks)	
	- Requirements specification (10 marks)	
	- Description of new system modules (30 marks) - for at least 5 modules	
	- High-level implementation (60 marks) - for at least 5 modules	
	<b>Mark for system document = total of (2) / 10</b>	
<b>3.</b>	<b>Implementation and Testing document (7.5%)</b>	
	- Low level implementation (40 marks) - for at least 5 modules	
	- Testing (15 marks)	
	- Installation (10 marks)	
	- Final document (10 marks) <ul style="list-style-type: none"> <li>- High level description of completed software and system</li> <li>- Evaluation of the methods and tools used and of the completed system</li> <li>- Summary of project work, closing statements and feedback.</li> </ul>	
	<b>Mark for implementation and testing document = total of (3)/10</b>	
<b>4</b>	<b>User Manual (5%)</b>	
<b>Final mark for documentation:</b>		

**Progress – meeting with supervisor (20%)**

Meeting score (each up to 4%)					
#1	#2	#3	#4	#5	Total (20%)

**Presentation (10%) – Individual assessment**

Score: \_\_\_\_\_%

**Product (40%)**

	Assessed through demonstration of the product:	
	<b>Product characteristic</b>	
1.	Functionality / compliance to requirements (40 marks)	
2.	Help subsystems (10 marks)	
3.	Interfacing (10 marks)	
4.	Reliability and stability (20 marks)	
	<b>Final mark for product = total/2</b>	

**Final marks**

<b>Documentation (30%)</b>	<b>Progress (20%)</b>	<b>Presentation (10%)</b>	<b>Product (40%)</b>	<b>Total (100%)</b>





## Project: Assessment Form for Presentation and Demonstration

Student Name: \_\_\_\_\_

Title of Project: \_\_\_\_\_

Supervisor: \_\_\_\_\_

<b>Presentation Content (5%)</b>	
Was the technical level appropriate and was the student clear about the project aims? (3 marks)	
Did the presentation materials contain an appropriate amount of relevant information and were they easy to read? (2 marks)	
Did the student demonstrate a thorough grasp of the issues of the project during the presentation and in answering questions? (5 marks)	
Was the student clear about the work yet to be done /could be improved? (5 marks)	
<b>Total for Presentation Content = total/3</b>	
<b>Presentation Skills (5%)</b>	
Were the title and an outline of the presentation given at the start? (2 marks)	
Did the student present in a logical order, making good use of the presentation materials available? (2 marks)	
Was the presentation confidently conducted with the student facing the audience, engaging in eye contact, and avoiding over-reliance on notes? (2 marks)	
Was the presentation interesting? (2 marks)	
Did the student keep to time, having concluded suitably? (2 marks)	
<b>Total for Presentation Skills = total/2</b>	
<b>Total</b>	<b>/10</b>



## Project: Client Appraisal Form (Sample)

Title of project: \_\_\_\_\_

Client company name: \_\_\_\_\_

Client name : \_\_\_\_\_

Client contact: \_\_\_\_\_ (Telephone / Fax)

\_\_\_\_\_ (Email)

Please return the completed form sealed in an envelope to:

<Name of supervisor>

<Name of institution>

<Mailing address of institution>

Can the institution contact you for further information or clarification regarding this assessment? Yes:  No:

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Please circle the appropriate response to each of the following questions:

Q1. Was the student punctual for his/her meetings?

1	2	3	4	5
Always late		Sometimes punctual		Always punctual or early

Q2. Did the student come prepared for the meetings, for example with questions to ask?

1	2	3	4	5
Never prepared		Sometimes prepared		Always prepared

Q3. Were you informed by the student about his/her progress in his/her work?

1	2	3	4	5
Never informed		Sometimes informed		Always informed

Q4. Was the student able to communicate properly with you?

1	2	3	4	5
Significant difficulties in communication		Occasional difficulties		No difficulties experienced

Q5. Are you satisfied with the documents produced by the student?

1	2	3	4	5
Very dissatisfied		Adequate		Very satisfied.

Q6. Did you find the frequency of meetings with the student satisfactory?

1                      2                      3                      4                      5  
Very                      Adequate                      Very satisfactory  
unsatisfactory

Q7. How did you find the prototype / completed software developed by the student?

1                      2                      3                      4                      5  
Totally unusable                      Adequate                      Very usable

Q8. Please rate your overall experience with the student.

1                      2                      3                      4                      5  
Very                      Adequate                      Very  
unsatisfactory                      satisfactory.



Q9. Are there any comments you would like to make about the student (for example, if he/she was particularly outstanding, or was he/she frequently unprepared)?

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Q10. Is there any feedback on the project unit you would like to present to the management of the institution for consideration?

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Signature of client: \_\_\_\_\_ Date: \_\_\_\_\_

Thank you for your participation in this feedback!

# Appendix A

## 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* in the reference list, although *et al* should be used for in-text citations.

Example:

Simpson, H. Jones, E. and Miles, C. (2000) *The History of Springfield*. 2<sup>nd</sup> 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 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, including mobile phones, Personal Digital Assistants (PDAs), notes etc, into an examination.
2. Consulting unauthorised material 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.
8. In the United Kingdom Higher Education system, cheating in exams is considered a criminal offence, fraud, and students have been prosecuted, fined and sentenced to community service for cheating.

#### **B Course work and Project work**

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

#### **C Other**

1. Bribery or attempted bribery of a person thought to have some influence on the student's assessment.
2. Any other conduct calculated to secure an unfair or improper advantage in an assessment.
3. 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.
4. It is also an offence under the regulations to knowingly assist in any of all of the above.

Plagiarism is a serious academic offence and NCC Education will discipline students for committing plagiarism. Students, who plagiarise, and anyone who allows 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 to take an NCC Education programme in future.

**Students are responsible for educating themselves about plagiarism, and NCC Education advice is to avoid plagiarism at all costs through the use of Harvard referencing for in-text citations and bibliographies and the use of plagiarism detection software such as MyDropBox.**

### **Avoiding plagiarism**

Students learn from the work of others and may quote from it without penalty. The use of citations and bibliographies conveys to the marker that the student has read around the subject, which will create a favourable impression in the marker's mind.

Where direct quotation appears to a student to be appropriate s/he must ensure that quotation marks and reference to the original author is clear within the text, e.g. *Chaffey 2003*. 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.

## **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.

Where students commence writing in the 10 minute reading period, they should be allowed to continue with the exam but the fact that they started during the reading period should be noted on the answer script and initialed by the invigilator.

## **Course and Project Work**

Accredited Partner Centres are strongly advised to use plagiarism detection software such as MyDropBox to check samples of student work prior to marking. If centres obtain site licenses for such software, it is recommended that they require students to run a check on their coursework and submit the MyDropBox report with the coursework. Obviously if such a procedure identifies plagiarism, the student should re-work prior to final submission.

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.**