

**LEVEL 3**

# CERTIFICATE IN QUALITY

(Assurance and Management)

## Syllabus



## THE CHARTERED QUALITY INSTITUTE

### **CQI Level 3 Certificate in Quality**

#### **(Assurance and Management)**

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# INTRODUCTION

## 1.0 Introduction

The CQI Certificate in Quality Assurance has been developed to complement the CQI Diploma in Quality which has been successfully delivered at the CQI education centres since September 2002. This level 3 qualification has been designed to provide students with the underpinning knowledge required of all quality professionals. It will also provide its students with the necessary knowledge and skills required to undertake the CQI Diploma in Quality.

The CQI is committed to provide its members and potential members with educational programmes that will enhance individual careers and personal development. The CQI is a learned society and its educational programmes form one aspect of this commitment to its members and the wider community.

## 2.0 Rationale

### 2.1 Background

The Level 3 qualification has been devised to fill an identified gap in the national qualification framework, and is offered by CQI to fulfil both student and employer needs. Many students studying towards the Level 5 qualification have indicated that a lower level introductory course would have benefited their current studies. The CQI Certificate in Quality Assurance addresses this observation.

### 2.2 Target audience

Those who are new to quality and require an introductory level qualification covering the concepts and fundamentals that quality addresses.

Those who wish to gain the Level 5 Diploma in Quality Assurance but do not have the necessary skills and knowledge ready to commence a Level 5 qualification.

### 2.3 Programme principles

The programme will be guided by three main principles:

- i. To broaden the skills of an individual
- ii. To facilitate individual progress onto either other Level 3 qualifications or Level 4/5 qualifications
- iii. To assist individuals to gain professional associate membership of the CQI

### 2.4 Programme aims

- i. To provide students with an understanding of quality concepts
- ii. To develop an appreciation of the need for quality and its control
- iii. To enhance students' awareness of the terminology of quality
- iv. To develop an appreciation of customers, clients and markets
- v. To evaluate the human dimension of an organisation
- vi. To provide students with an understanding of the statistical methods used in quality
- vii. To enhance students' awareness of the disciplines, systems and techniques of quality management

### 2.5 Programme learning outcomes

On successful completion of the Certificate programme, students should be able to:

- i. Understand the role of management/supervision within an organisation relating to quality
- ii. Understand and discuss quality concepts
- iii. Discuss the need for a customer focused approach
- iv. Understand, discuss and apply the principles of total quality management and the contribution of quality gurus
- v. Collect and present data in appropriate formats
- vi. Make calculations, construct and interpret control charts and process capability studies
- vii. Calculate and make judgement on the reliability of series and parallel systems
- viii. Explain and interpret variability and probability distributions in specific situations
- ix. Explain and justify how the use of data analysis supports the attainment of product/service quality.
- x. Explain the role of standardising organisations and regulatory bodies
- xi. Understand the purposes of quality management systems and models
- xii. Explain the importance of inspection, audit and assessment to given standards
- xiii. Understand the purposes and benefits of consumer protection and product liability

The generic programme aims and learning outcomes have been mapped against specific modules.

## 3.0 course structure

### 3.1 General principles

This qualification is designed to be taken in one academic year with part-time study or distance learning. The programme requires students to undertake a course of study based on a mandatory three-module configuration.

Module code	Title
C1	Quality: Customers, clients and markets
C2	Quality: Principles of data analysis
C3	Quality: Models, standards and laws

### 3.2 Delivery pattern

Students are able to enter the programme anytime during an academic year. However, examination dates and assignment issue and submission dates should be observed. Each module is essentially free-standing, but has clear links with the CQI Diploma programme.

### 3.3 Level descriptors

Level descriptors are designed as guidance for levels of learning to be attained. Learning accredited to all modules contained within the framework of the Certificate is to be considered at Level 3.

## 4.0 Programme structure

The assessment of the programme learning outcomes will be achieved at the module level. Students will therefore achieve the programme learning outcomes by successful completion of the mandatory modules.

### 4.1 Mapping of programme learning outcomes to modules

The table below shows the relationship between the modules and the programme learning outcomes; the shaded area indicating a strong relationship.

	C1	C2	C3
Outcome i			
Outcome ii			
Outcome iii			
Outcome iv			
Outcome v			
Outcome vi			
Outcome vii			
Outcome viii			
Outcome ix			
Outcome x			
Outcome xi			
Outcome xii			
Outcome xiii			

### 4.2 Programme of study

The CQI Certificate in Quality Assurance has been designed as a professional qualification for delivery on a part-time attendance mode at the CQI approved Education Centres. The mode of study can, however, be adjusted according to the students' needs and education centre's preferences. The basis of the qualification is the completion of three mandatory modules. Although the modules are not specifically designed to lead onto each other, the modules are advised to be taken in the following order: C1, C2 and C3.

A set of indicative reading lists have been provided for each module; these are to be used as teaching references. Books have been selected to be as current as possible so students can purchase the books for self study periods.

#### 4.2.1 The mandatory modules

The three mandatory modules (C1, C2 & C3) incorporate the pedagogy of the CQI devised body of quality knowledge and are designed for delivery over one academic year. However, the mode of study can be adjusted according to the requirements of the education centre. The breakdown of delivery is shown in the table below:

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Module	Guided learning hours	Directed study hours	Independent study hours	Total hours per module
C1	30	30	40	100
C2	30	30	40	100
C3	30	30	40	100

## 4.2.2 Directed study

Directed study will have a number of important features within each module. It will:

4.2.2.1 Allow students to read and prepare materials for subsequent lectures and assignments

4.2.2.2 Engage in relevant activities within their professional sphere

4.2.2.3 Develop a broader view of their studies by extending the breadth of their knowledge, and provide important conceptual and practical links to other modules and studies

## 4.2.3 Independent study

Independent study time will allow the student to develop and refine individual skills and knowledge base. This allows the student to use both primary and secondary source material, and to develop research skills.

## 4.3 Pre-course entry requirements

The CQI stipulates no specific entry requirements, however, students must have a good ability of numeracy and literacy as specific modules within the qualification require mathematical calculations and written essay work. GCSE Maths and English or equivalent are advisable.

### 4.3.1 Academic qualifications

### 4.3.2 Vocational/occupational qualifications

Students from the following occupational sectors may benefit from this course and subsequent qualification:

4.3.2.1 Business Improvement Techniques

4.3.2.2 Customer Service

4.3.2.3 Administration

4.3.2.4 Engineering

This list is not exhaustive and only represents a number of occupational sectors.

### 4.3.3 Vocational experience

Students may possibly be new to quality and therefore will have little current experience to support their application. However, students that are in a working environment involving quality, would benefit from this qualification as they will be able to apply some of the theories and techniques in the workplace and see the results first hand. Students who are not working will benefit from finding volunteer positions within a quality working environment.

## 4.4 Accreditation of Prior Achievement (APA)

The CQI operates a full APA scheme as detailed in a separate policy. See the centre handbook for information or access the policy via our website [www.thecqi.org/education](http://www.thecqi.org/education)

## 5.0 Assessment and award

### 5.1 Introduction

This section deals with the summative assessment of student performance. The assessment framework has been designed to allow flexibility in matching forms of assessment to:

5.1.1 Teaching and learning strategies

5.1.2 The overall aims and learning outcomes of the programme

5.1.3 The desired outcomes of the individual modules

Formative exercises may be employed within modules to assist progression and development of course members.

### 5.2 Assessment profile

#### 5.2.1 Modules C1 and C2

Modules C1 and C2 will be assessed using an assignment approach. This will involve students undertaking one summative assessment submission equivalent to between 2,000-3,000 words per module.

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The centre will be responsible for marking the assignments, in the first instance, and then they will be sent to the CQI for moderation purposes.

Assignment briefs will be issued at the beginning of each academic year and will be valid for the assessment period in the following year e.g. an assignment issued in September 2004 will be eligible for moderation until June 2005. All assignments issued in September should be marked and submitted to the CQI in June the following year (exact deadlines are published on [www.thecqi.org/education](http://www.thecqi.org/education)). Centres should set their own deadlines to give themselves sufficient time to mark and dispatch the assignments.

5.2.2 Module C3 Module C3 is designed to be assessed by external assessment. The module examination will be set, marked and by the CQI. The examination will comprise of a series of questions relating to the learning outcomes within the module.

The duration of the examination will be two hours and 30 minutes. Ten minutes reading time will be given before the examination commences. A new examination will be issued each January and June.

5.3 Awarding criteria Each module of the qualification will be awarded using the grading system outlined below:

Mark	Grade	Descriptor
0-39	Fail	F
40-59	Pass	P
60-74	Merit	M
75+	Distinction	D

No certificates, student results, etc. can be made available until the CQI examination board has met and agreed the outcomes. The CQI examination board also takes into consideration any special assessment requirements and mitigating circumstances.

5.3.1 Students wishing to sit examinations Examination fees will be set by the CQI and communicated to all academic establishments in advance.

Student programme registration will be allowed for three years; any student who has either failed coursework or the examination after this three year registration period will have failed the programme and will have to re-register for the complete programme.

5.3.2 Appeals The CQI operates a full appeals procedure as detailed in a separate policy. See the centre handbook for information or access the policy via our website [www.thecqi.org/education](http://www.thecqi.org/education).

5.3.3 Results enquiries The CQI operates a full results enquiries scheme as detailed in a separate policy. This is to assist students gain detailed feedback on assignment and examination results. See the centre handbook for information or access the policy via our website [www.iqa.org/education](http://www.iqa.org/education).

5.4 Award Only students who successfully complete all three modules, within a three year time frame, will be eligible for the award of the CQI Certificate in Quality Assurance; this will be graded.

The CQI Awarding Committee confers the award of Certificate in Quality Assurance. In order to confirm the intellectual rigour of the qualification, and its recognition by the CQI, Certificate in Quality Assurance graduates will each receive a certificate signed by the CQI deputy director general.

5.5 Progression Students may be able to progress onto additional courses and academic programmes; these may include:

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5.5.1 Level 3 qualifications:	5.5.1.1 NVQ 3 - Business Improvement Techniques 5.5.1.2 NVQ 3 - Customer Service 5.5.1.3 Level 3 - Certificate in Management
5.5.2 Level 4/5 qualifications:	5.5.2.1 The CQI Diploma in Quality 5.5.2.2 Diploma in Management 5.5.2.3 NVQ4 in Customer Services 5.5.2.4 NVQ4 - Business Improvement Techniques 5.5.2.5 Engineering/Welding Qualifications at level 4
5.5.3 Job titles that can be aspired to or gained:	5.5.3.1 Quality Engineer 5.5.3.2 Quality Technician 5.5.3.3 Quality Administrator 5.5.3.4 Customer Services Advisor 5.5.3.5 Quality Co-ordinator 5.5.3.6 Internal/Lead Auditor 5.5.3.7 Business Improvement Co-ordinator 5.5.3.8 Quality Representative
5.5.4 Professional status	At the end of the course students will be eligible to apply for Associate Membership of the CQI (ACQI) and be encouraged to progress their professional status to full corporate member (MCQI) via number of different routes.

## 6.0 Teaching strategy

6.1 Learning outcomes	The drivers behind the coursework assessment and examination are the learning outcomes. When preparing the course material this should be considered.
6.2 Indicative content	<p>The indicative content is guidance for the areas to be addressed which may arise in the examination or assignments. These are areas which will be expected to be discussed within the framework of assessment. The way the questions are approached is governed by the learning outcomes (see 6.1).</p> <p>The indicative reading list should be consulted for details of what areas will be addressed in the indicative content .</p> <p>Where modules refer to standards please refer to the standards for definitions and interpretations.</p>
6.3 Percentage weighting for assessment	Each of the learning outcomes carries the same weighting within the module e.g. if there are four learning outcomes for one module each will carry a 25% weighting.
6.4 Harvard referencing system	When referencing the assignments the Harvard referencing system should be applied.

# INTRODUCTION

**Assessment Grid** – Modular Assessment Breakdown

Module	Components/learning outcomes					Total
	1	2	3	4	5	
C1	25	25	25	25	N/A	100
C2	20	20	20	20	20	100
C3	25	25	25	25	N/A	100

## MODULE C1 – QUALITY: CUSTOMERS, CLIENTS AND MARKETS

### CQI syllabus level 3

#### Module C1 – Quality: Customers, clients and markets

#### Aims

- 1 To provide students with an understanding of quality concepts
- 2 To enhance students' awareness of the terminology of quality
- 3 To develop an appreciation of customers, clients and markets
- 4 To evaluate the human dimension of an organisation

#### Learning Outcomes (number in brackets refers to the indicative content)

On successful completion of this module students will be able to:

- 1 Understand the role of management/supervision within an organisation relating to quality (3)
- 2 Understand and discuss the quality policy deployment (1)
- 3 Discuss the need for a customer focused approach (2)
- 4 Understand, discuss and apply the principles of total quality management and the contribution of gurus (4)

#### Indicative content

- 1 Quality concepts**
  - 1.1 Organisation's quality policy
- 2 Customer focus**
  - 2.1 Customer/client satisfaction
  - 2.2 Customer liaison and feedback systems
  - 2.3 Performance measures
- 3 Management and supervision**
  - 3.1 Principles of organisation culture and climate
  - 3.2 Communication and feedback
  - 3.3 Accountability and delegation
  - 3.4 Training and development
- 4 Total quality management and quality gurus**
  - 4.1 Principles and techniques of TQM – BS7850
  - 4.2 Deming
  - 4.3 Juran
  - 4.4 Crosby

## **Module C1 – Quality: Customers, Clients and Markets**

### **Indicative reading**

Bicheno, J, *The Quality 75: Towards Six Sigma Performance in Service and Manufacturing*  
ICSIE Books, 2002  
ISBN 0954124405

Oakland, J, *Total Quality Management: The Management of Change Through Process Improvement*  
Butterworth-Heinemann, 1993  
ISBN 0750609931

Tickle, F and Vorley, G, *Quality Management Introduction to Quality*  
Quality Management and Training Publications, 2002  
ISBN 1904302009

### **Teaching and learning strategy**

This module is designed to have 30 guided learning hours or contact time.

Each centre should devise an implementation plan for the duration of the course to show how each area will be covered.

### **Assessment requirements**

The assessment for this Module C1 will comprise of one assignment. The assignment is to be marked by the tutor and then submitted to the CQI for moderation. The CQI reserves the right to amend any marks allocated by a centre if it is deemed that the centres are marking too high or low.

All assignments must be submitted to the CQI before the stipulated date otherwise the CQI will mark the assignment as a fail.

### **Awarding criteria**

The minimum pass mark is 40 per cent.

Marks will be accredited fail, pass, merit or distinction

## MODULE C2 – QUALITY: PRINCIPLES OF DATA ANALYSIS

### CQI syllabus level 3

#### Module C2 – Quality: Principles of Data Analysis

#### Aims

- 1 To enhance students' awareness of the terminology of quality
- 2 To provide students with an understanding of the statistical methods used in quality
- 3 To provide students with an understanding of reliability and variability

#### Learning Outcomes (number in brackets refers to the indicative content)

On successful completion of this module students will be able to:

- 1 Collect and present data in appropriate formats
- 2 Make calculations, construct and interpret control charts and process capability studies (1/3)
- 3 Calculate and make judgement on the reliability of series and parallel systems (3/4)
- 4 Explain and interpret variability and probability distributions in specific situations (3)
- 5 Explain and justify how the use of data analysis supports the attainment of product/service quality (4)

#### Indicative content

##### 1 Data collection/presentation

- 1.1 Pareto analysis
- 1.2 Cause and Effect
- 1.3 Brain storming
- 1.4 Data presentation
  - 1.4.1 Pie charts
  - 1.4.2 Bar graphs
  - 1.4.3 Line graphs
  - 1.4.4 Histograms
  - 1.4.5 Tally charts

##### 2 Variability

- 2.1 Calculate mode, mean, median, range, standard deviation and variance.
- 2.2 Continuous and discrete random variables
- 2.3 Probability distributions
- 2.4 Normal, binomial and Poisson distributions

##### 3 Statistical process control

- 3.1 Process capability studies
- 3.2 Statistical process control charts
- 3.3 Calculation and use of decision lines

##### 4 Reliability

- 4.1 Basic concepts of series and parallel systems
- 4.2 Use of redundancy to improve reliability
- 4.3 Interpretation of time life distribution

## Module C2 – Quality: Principles of Data Analysis

### Indicative reading

Caplen, RH, *A Practical Approach to Quality Control*  
Business Books, 1988  
ISBN 0091735815

This book is out of print but is a useful reference if a student can borrow a copy or buy one second hand

Dummer, GWA, Tooley, MH and Winton, RC, *An Elementary Guide To Reliability*  
Butterworth-Heinemann, 1997  
ISBN 0750635533

Murdoch, J and Barnes, JA, *Statistical Tables for Science, Engineering, Business Management and Finance*  
Palgrave Macmillan, 1998  
ISBN 0333558596

Tickle, F and Vorley, G, *Quality Management Introduction to Quality*  
Quality Management and Training Publications, 2002  
ISBN 1904302009.  
Parts 5, 6 and 7 are particularly relevant to this module

### Teaching and learning strategy

This module is designed to have 30 guided learning hours or contact time.

Each centre should devise an implementation plan for the duration of the course to show how each area will be covered.

### Assessment requirements

The assessment for this Module C2 will comprise of one assignment. The assignment is to be marked by the tutor and then submitted to the CQI for moderation. The CQI reserves the right to amend any marks allocated by a centre if it is deemed that the centres are marking too high or low.

All assignments must be submitted to the CQI before the stipulated date otherwise the CQI will mark the assignment as a fail.

### Awarding criteria

The minimum pass mark is 40 per cent.

Marks will be accredited fail, pass, merit or distinction

## MODULE C3 – QUALITY: MODELS, STANDARDS AND LAWS

### CQI syllabus level 3

#### Module C3 – Quality: Models, standards and laws

#### Aims

- 1 To enhance students' awareness of the terminology of quality
- 2 To enable student to appreciate the need for standardisation
- 3 To enable students to apply quality management methods to all activities in the business or organisation
- 4 To introduce students to the legal issues related to quality

#### Learning Outcomes (number in brackets refers to the indicative content)

On successful completion of this module students will be able to:

- 1 Explain the role of standardising organisations and regulatory bodies (1)
- 2 Understand the purpose of quality management systems and models (2)
- 3 Explain the importance of inspection, audit and assessment to given standards (3)
- 4 Understand the purpose and benefits of consumer protection and product liability (4)

#### Indicative content

- 1 Standardising organisations and regulatory bodies
  - 1.1 Company, national and international standards
  - 1.2 Natural, prototype and subjective standards
  - 1.3 Product service standards:
    - 1.3.1 Kitemark
    - 1.3.2 Investors in People
    - 1.3.3 Charter Mark
    - 1.3.4 CE marking
  - 1.4 Regulatory and certification bodies
- 2 Quality management systems/models
  - 2.1 ISO 9000:2000 series
  - 2.2 The EFQM Excellence Model
- 3 Inspection, audit and assessment
  - 3.1 Inspection
  - 3.2 Internal and external audit (ISO 19011)
  - 3.3 Self assessment
- 4 Law
  - 4.1 Consumer Protection Act, 1987
  - 4.2 General Product Regulations, 1994
  - 4.3 Sale of Goods Act, 1979 (as amended by the Sale and Supply of Goods Act, 1994)
  - 4.4 EC Directives

## **Module C3 – Quality: Models, standards and laws**

### **Indicative reading**

Reeves, R and Pritchard, E, *Quality Assurance and the Law*  
Butterworth-Heinemann, 1999  
ISBN 0750641762

Summers, DCS, *Quality*, 4Rev Ed.,  
Prentice Hall, 2005,  
ISBN 013118931x

Tickle, F and Vorley, G, *Quality Management – Introduction to Quality*  
Quality Management and Training Publications, 2002  
ISBN 1904302009

Tricker, R and Sherring-Lucas, B, *ISO 9001:2000 in Brief*  
Butterworth-Heinemann, 2005  
ISBN 0750666161

### **Teaching and learning strategy**

This module is designed to have 30 guided learning hours or contact time.

Each centre should devise an implementation plan for the duration of the course to show how each area will be covered.

Where national standards have been referenced in the indicative content they should be available for learning purposes; and students will be required to know these for assessment purposes.

### **Assessment requirements**

The assessment for this Module C3 will comprise of an examination.

### **Awarding criteria**

The minimum pass mark is 40 per cent.

Marks will be accredited fail, pass, merit or distinction

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