



Engineering Construction Industry Training Board

Qualification Information Booklet
Level 5 Diploma
in Cost Engineering Practice

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Introduction

This booklet has been developed to provide anyone considering the ECITB Level 5 Diploma in Cost Engineering Practice with an introduction to the award currently available through ECITB. This booklet contains a copy of the QCF units within the Cost Engineering qualification as well as a summary of the way in which QCF qualifications are constructed, what the process is in achieving the ECITB qualification and how it is assessed.

Should you have any queries or require any further information regarding the awards offered by ECITB please contact the Awards and Qualifications Administrator at:

HEAD OFFICE ADDRESS	CONTACT DETAILS
ECITB Blue Court Church Lane Kings Langley Hertfordshire WD4 8JP	Tel: 01923 260000 e-mail: nsvq@ecitb.org.uk website: www.ecitb.org.uk

1. What is an ECITB QCF qualification?

ECITB Qualification Credit Framework qualifications (QCF) are vocational qualifications which are based on the National Occupational Standards (NOS) of that particular sector of industry. NOS are developed by employers and professional bodies in conjunction with the Standard Setting Body and describe what is meant by occupational competence within a particular job role.

All QCF qualifications are structured in such a way that they can be broken down into the following common parts:

- Units;
- Level;
- Credit value;
- Learner outcomes;
- Assessment criteria;
- Assessment requirements.

Each of these parts is further described below.

Units	A qualification is divided into units, each of which describes an activity which the candidate will be expected to perform competently.
Level	The level represents the complexity, autonomy and/or range of achievement expressed within the unit.
Credit value	The credit value represents the learning time being defined as the time taken by learners at the level of the unit, on average, to complete the learning outcomes of the unit to the standard determined by the assessment criteria.
Learner outcomes	Learner outcomes set out what a candidate is expected to know, understand or be able to do as the result of a process of learning.
Assessment Criteria	The assessment criteria within a unit specifies the standard a candidate is expected to meet to demonstrate that the learning outcomes have been achieved.
Assessment requirements	Details any requirements about the way a unit must be assessed.

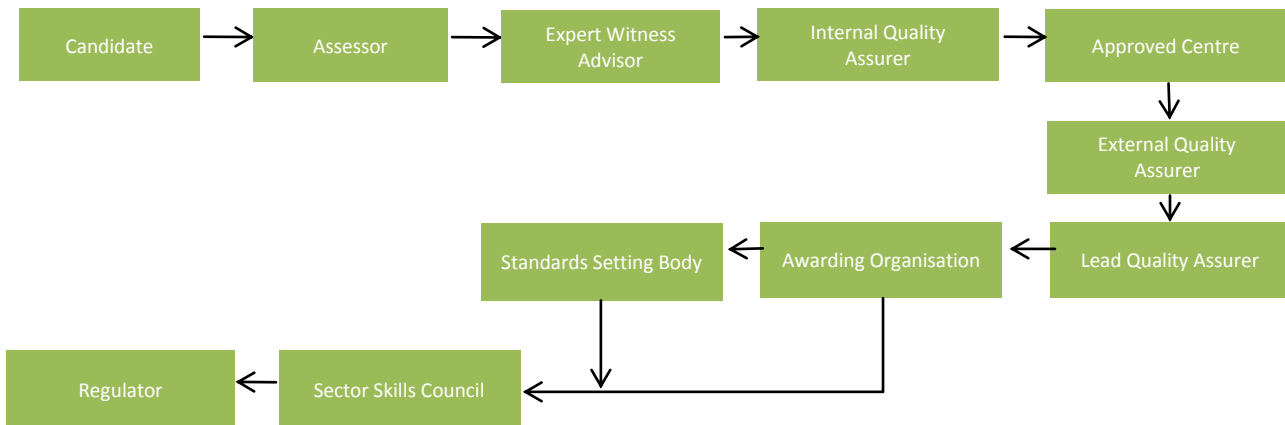
1.1 What is the process involved in achieving a QCF qualification?

Once a candidate has been registered with the awarding organisation, in this case ECITB Awards and Qualifications, they will be ready to begin working towards their qualification. They will then be introduced to the assessor who will offer support and guidance as the candidate progresses through the stages of the qualification. The assessor will firstly introduce the candidate to the other key members of the qualification system. These will include:

- Internal Quality Assurer
- Expert Witness Advisor
- Approved Centre
- Centre Co-ordinator
- External Quality Assurer
- Lead Quality Assurer
- Awarding Organisation
- Standard Setting Body
- Regulator (Office of Qualifications and Examinations Regulation (Ofqual)).

The Assessor will also explain what roles each of these key members will play in assuring the quality of the qualifications system. This is vitally important as it helps to ensure that the assessment of qualifications is valid and reliable and that certificates are only awarded to those candidates who do successfully meet the standards required.

The diagram below illustrates the flow of information between each of the key members.



The following tables summarise the roles which each of the key members perform in quality assuring the regulated qualifications systems, including N/SVQs.

Who's who	What is their role?
<p>Candidates Individuals seeking validation for their achievements and competence.</p>	<ul style="list-style-type: none"> • Show they can perform to the national standards in order to be awarded credit, counting towards a Qualification and demonstrate the specified knowledge, understanding and skills. • Take some responsibility for the quality of evidence provided to assessors.
<p>Assessors Nominated by an approved centre and approved by an awarding organisation to assess a candidate's evidence. In direct contact with candidates. Holds appropriate qualifications as agreed by the regulators such as D32 and D33 or A1.</p>	<ul style="list-style-type: none"> • Judge candidates' evidence against the national standards. • Advise candidates on opportunities to collect evidence. • Ensure that the evidence provided is current. (Up to and including the two year period prior to the portfolio completion date for any unit or qualification) • Decide whether the candidate has demonstrated competence, give feedback on the decision and record it. • Ensure that their assessment practice meets awarding organisation guidance and national standards.
<p>Expert Witness Advisor Nominated by an approved centre and approved by an awarding organisation to carry out direct observation as the exception when an assessor is not available.</p>	<ul style="list-style-type: none"> • Can carry out direct observation of the candidate against the criteria for the mandatory assessor observation of assessment criteria and assessment requirements where the practicalities and costs of having an assessor available to observe the candidate at work prohibitive or impracticable. • The EWA shall meet the criteria for assessor occupational expertise as specified by the ECITB Standards Setting Body Assessment Strategy. • A registered EWA can provide mandatory direct observation of any candidate in the relevant qualification for any approved centre as long as the assessor/EWA procedures are followed.
<p>Internal Quality Assurers Nominated by an approved centre and approved by an awarding organisation to ensure consistency and quality of assessment. Holds V1 and A1 or appropriate qualifications as agreed by the regulators. Works to the ECITB IQA Code of Practice</p>	<ul style="list-style-type: none"> • Work with assessors to ensure the quality and consistency of assessment. • Sample candidate assessments to ensure consistent assessment. • Ensure their own internal quality assurance meets current standards. • Ensure that assessment and verification records and documents are fit for purpose and meet awarding organisation requirements. • Ensure that requests for certificates to the awarding organisation are based on assessments of consistent quality. • Provide support and guidance for the centre's assessors.
<p>Approved Centre Co-ordinators Point of contact for awarding bodies. May take on some Internal Quality Assurer functions, particularly relating to administration.</p>	<ul style="list-style-type: none"> • Act as a contact for the awarding organisation and the External Quality Assurer. • Ensure that there are accurate assessment and verification records for the qualification. • Request certificates and credits from the awarding organisation.
<p>Approved Centres Organisations approved by awarding bodies to assess and verify qualifications.</p>	<ul style="list-style-type: none"> • Comply with regulatory requirements. • Manage assessment and verification on a day-to-day basis. • Have effective assessment practices and internal verification procedures. • Meet awarding organisation requirements for qualification delivery. • Have sufficient competent Assessors and Internal Quality Assurers with enough time and authority to carry out their roles effectively.

<p>Lead Quality Assurer Appointed by the ECITB awarding organisation to manage teams of External Quality Assurers (EQA)</p>	<ul style="list-style-type: none"> • Manage the workload and monitor performance of the External Quality Assurers. • Provide advice and guidance to External Quality Assurers. • Carry out all new centre approvals. • Approve post approval monitoring reports and ensure all actions are implemented. • Approve any recommendations for sanctions on centres. • Resolve disputes. • Approve recommendations for appointment of new assessors and Internal Quality Assurers.
<p>External Quality Assurers Appointed by the ECITB awarding organisation to monitor the work of approved centres. Act as key link between the awarding organisation and approved centres. Hold V2 and A1 or appropriate qualification as agreed with the regulators. Work to the ECITB Code of Practice.</p>	<ul style="list-style-type: none"> • Make sure that decisions on competence are consistent across centres. • Make sure that the quality of assessment and verification meets national standards. • Sample candidate assessments and monitor assessment and verification practices in centres, including interviews with assessors and Internal Quality Assurers and candidates. • Provide advice, guidance and feedback to centres. • Make regular visits to centres and assessment locations. • Ensure that their own verification practice meets V2 and A1 or appropriate qualification as agreed with the regulators.
<p>Awarding Organisations An organisation approved by the regulators to award qualifications.</p>	<ul style="list-style-type: none"> • Ensure the quality and consistency of assessment for qualifications nationally. • Produce guidance for centres. • Appoint, support and develop External Quality Assurers, allocate them to centres and monitor their work. • Approve and monitor centres against the approved centre criteria. • Award credit. • Collect information from centres to inform national decisions about qualification delivery. • Provide information to the regulators.
<p>Standards Setting Bodies (SSB) Develop the national occupational standards on which qualifications are based.</p>	<ul style="list-style-type: none"> • Work with industry to develop National Occupational Standards. • Work with awarding bodies to produce assessment strategies. • Provide information about, and clarification of, the National Occupational Standards.
<p>Sector Skills Councils (SSC)</p>	<ul style="list-style-type: none"> • Accredit qualifications put forward by awarding organisations if they meet the published criteria.
<p>Ofqual Ofqual is the regulator of qualifications, test and examinations in England, Wales and Northern Ireland.</p>	<ul style="list-style-type: none"> • Ensure that organisations that offer and deliver qualifications (awarding organisations) have good systems in place, and that they are held to account for their performance. • Ensure that all qualifications offered by awarding organisations are fair and are comparable with other qualifications. • Ensure that standards in qualifications, exams and tests are monitored and the findings are reported. • Ensure that there is fair access to qualifications for all candidates. • Ensure the quality of marking of exams, tests and other assessments is high, so that learners get the results they deserve. • Ensure that the qualifications market provides value for money and meets the needs of learners and employers. • Ensure that debate about important topics, such as standards of exams and qualifications, is encouraged.

1.2 What will be assessed?

Once the candidate has decided with the assessor which route they will take through the qualification, i.e. the units they will work towards, they are ready to begin assessment. Broadly speaking two aspects of the candidate's working practice will be assessed: their performance; and their knowledge and understanding. The assessor will work with the candidate to plan how, when and where evidence will be gathered to cover these aspects.

1.3 How will assessment take place?

There are a variety of methods through which evidence of the candidate's competence and understanding can be gathered. There are also different methods by which to collect performance and knowledge evidence:

- Direct observation of the candidate's performance by the assessor and/or EWA.
- Testimony from a witness such as a candidate's colleague, this is also observation of the candidate.
- Documentary evidence (*such as permits to work, work specifications etc.*) which relate to work successfully completed by the candidate on a past occasion.
- Demonstration of a task by the candidate at the assessor's request. This is known as 'Simulation'.
- Questioning of the candidate to establish knowledge and understanding requirements.

These options give an assessor and the candidate some flexibility in how they are able to prove competence. However, some of these assessment methods are less reliable and as such their use may be limited within the qualification. If this is the case the guidance contained within the QCF units will provide further clarification. Direct observation of the candidate by the assessor is the most reliable, and often the most straightforward, method of gathering evidence. The approved centre and the assessment team responsible for assessing the candidate will determine whether observation or some of the other assessment methods listed above offer the best assessment solution for each individual candidate.

In relation to evidence of knowledge and understanding there are two main assessment methods:

1. Performance evidence gathered in the course of working towards the unit.
2. Questioning of the candidate.

In some instances, it will be self-evident from the candidate's performance that they have acquired the necessary knowledge and understanding e.g. where the unit requires knowledge of how to carry out a specific task and by carrying it out effectively the candidate demonstrates that they know what to do.

However, knowledge of why something is done in a certain way cannot be demonstrated through performance alone and questioning of the candidate is another assessment method that could be used.

1.4 Simulation requirements

Demonstration, as previously outlined, is one of the assessment methods available to candidates and assessors through which to observe a candidate's competence. However, its use has been limited to certain specific units in which it may be possible to gather the naturally occurring workplace evidence normally required.

Reference needs to be made to the standards to confirm the status of each unit; however, as a rule simulation is only permissible where one or more of the following characteristics apply:

- a) Health and safety could be compromised by seeking workplace evidence.
- b) The behaviour or situation under which assessment occurs happens infrequently in the workplace.
- c) The responsibility for the work rests with the candidate, but it is typically either delegated or carried out jointly with another and the candidate has limited opportunity to demonstrate it directly and individually.
- d) There would be unacceptable commercial or operational risk in securing workplace assessment.
- e) Facilities would need to be placed in an unacceptable operating state to allow for assessment to take place.

The assessment requirements detail within each unit whether or not simulation is permitted within the assessment for that unit.

Where simulation is permitted, the simulated activity must be designed to reflect the activity as it would be carried out in a typical workplace environment, including:

- a) The presence, actions and capabilities of other interacting personnel.
- b) The urgency with which the activity must be carried out and the time needed to complete it.
- c) The number and sequence of actions needed to complete the activity.
- d) The number and complexity of the factors affecting the activity.
- e) The skills and knowledge needed to carry out the activity.
- f) The nature and availability of resources needed to carry out the activity.
- g) Access to references and sources of advice and assistance that could be needed if problems arise.
- h) The type of documentation to be completed.
- i) The standards to which the activity must be carried out, including any practices and procedures which must be followed.
- j) The outcomes which the activity will produce.
- k) Access to normal/usual workplace instructions.

1.5 Assessment of candidates with particular assessment requirements

Equal Opportunities, Reasonable Adjustments and Special Considerations

Access to Fair Assessment

ECITB Awards & Qualifications requires approved centres to demonstrate a clear commitment to access to fair assessment, equal opportunities, reasonable adjustments and special considerations and to operate a Fair Assessment Policy in all matters concerning the assessment of candidates for the award of Qualifications and/or certificates or unit credits and in any appeals against approved centre decisions.

The policy must take account of full current legislation in the area of access to fair assessment and equal opportunities.

The approved centre must ensure that relevant staff in the assessment team receives training in the relevant sections of current legislation and that sufficient and appropriate information with regard to the content of this procedure is passed to all members of the approved centre assessment team.

The approved centre must maintain records of assessment and verification decisions, which demonstrate that:

- Assessment decisions only discriminate between candidates on the basis of the competence defined by the National Occupational Standards specified in the qualification.
- Assessment judgements are made regardless of race, gender, disability, nationality, religion, age, sexual orientation, family status or any other irrelevant factor.

Arrangements for candidates with particular assessment requirements

Principles

Approved centres must ensure that there are no unnecessary barriers to assessment, which prevent candidates from effectively demonstrating their attainment. Arrangements for candidates with particular assessment requirements (special arrangements) must also ensure that such candidates are not given, or do not appear to be given, an unfair advantage. Special arrangements are generally not appropriate where the candidate's particular difficulty directly affects performance in the actual attributes that are the focus of assessment.

Approved centres must make special arrangements according to the needs of the individual candidate, reflecting the candidate's usual method of working, the assessment requirements as set out in the specification and any guidelines set down by the regulatory authorities. Any special arrangements must ensure that the validity, reliability and integrity of the assessment are preserved and that certificates accurately reflect candidate attainment.

Approved centres are only required to do what is 'reasonable' in terms of giving access. What is reasonable will depend on the individual circumstances, cost implications and the practicality and effectiveness of the adjustment. As stated above the NOS must be taken into consideration, as must any safety and health implications.

There are two ways in which access to fair assessment can be maintained

1. Through reasonable adjustments.
2. Through special consideration.

Reasonable Adjustments

A reasonable adjustment is any action that helps to reduce the effect of a disability that places the candidate at a substantial disadvantage in the assessment situation.

Reasonable adjustments must not affect the integrity of what needs to be assessed, but may involve:

- Changing standard assessment arrangements, for example allowing candidates extra time to complete the assessment activity.
- Adapting assessment materials, such as providing materials in Braille.
- Providing access facilitators during assessment, such as a sign language interpreter or a reader.
- Re-organising the assessment room, such as removing visual stimuli for an autistic candidate.

Reasonable adjustments will not be taken into consideration during the assessment of the candidates work.

Special Consideration

Special consideration is given following an assessment to candidates who are present for the assessment but may have been disadvantaged by temporary illness, injury or adverse circumstances, which arose at or near the time of assessment.

Special consideration should not give the candidate an unfair advantage neither should its use cause the user of the certificate to be misled regarding a candidate's achievements. The candidate's result must reflect his or her achievement in the assessment and not necessarily his or her potential ability.

Where an assessment requires a competence, criteria or standard to be met fully, it may not be possible to apply special consideration. In some circumstances it may be more appropriate to offer the candidate an opportunity to retake the assessment at a later date or to extend the registration period so that the candidate has more time to complete the assessment activity.

Approved centres must make provision for special consideration to ensure that candidates who suffer temporary illness, injury or indisposition at the time of assessment are treated fairly. Such assessment should be made available to the candidate as soon as is reasonably practical within the guidelines of access to fair assessment. Where this is not possible, the awarding organisation will consider each individual case for special consideration, identifying the minimum requirements for an award to be made.

Procedures

Approved centre assessment team members should refer to the written procedures provided within the ECITB Awards & Qualifications Quality Assurance Procedures Manual for further guidance and information or to their own Approved Centre Operations Manual.

Monitoring and Reporting

The awarding organisation will monitor, evaluate and report annually on the use of special arrangements by its approved centres. Relevant data will be shared with the regulatory authorities on request.

1.6 Recommended prior learning

There is no prior knowledge, attainment or experience required for this qualification. Existing workers are expected to be competent by virtue of their length of service and experience and satisfactory performance in their roles, and will need to achieve the qualification in order to have this competence validated.

1.7 Credit

Credit is awarded to candidates for the successful achievement of the learning outcomes of a unit. The number of credits awarded will be the same as the value of the achieved unit. It is not possible for some credit to be achieved for partial completion of a unit or for candidates be awarded credit when all learning outcomes are not achieved by virtue of any 'compensation' for stronger performance in other areas of learning/achievement.

Credit accumulation is the term used to describe the process of putting a combination of credits to meet the achievement requirements of a qualification. The rules of combination for a qualification determine the requirements for achievement of credits through particular units. Awarding Organisations award qualifications based on this process.

Credit transfer describes the process of using a credit or credits awarded in the context of a different qualification or awarded by a different awarding organisation towards the achievement requirements of another qualification. Credits can only be transferred between qualifications and awarding organisations subject to the rules of combination for the receiving qualification.

1.8 Rules of Combination

Rules of combination specify the credits that need to be achieved through completion of particular units for a qualification to be awarded. All accredited qualifications within the QCF must have a set of rules of combination. Rules of combination set out the credit value of the qualification, credits from mandatory units and credits from optional units, credits from equivalent units and exemptions along with time limits on the process of credit accumulation or exemptions.

Exemptions are detailed within the rules of combination, exemptions set out any exemption from the requirement to achieve credit for units that candidates can claim, based on certificated achievement outside the QCF deemed to be of equivalent value to a QCF unit or units.

Time limits on the process of credit accumulation or exemptions are set out for each QCF unit within the rules of combination. ECITB QCF units have a time limit of 24 months from achievement for use within a QCF qualification.

1.9 Career development within the engineering construction industry

The ECITB's Apprenticeship programme is its main vehicle for recruiting and training young people to meet the future skills requirements of the industry. Qualifications at Levels 2 and 3 are often an integral part of this scheme.

The ECITB provides an alternative training route towards qualifications for those who have not completed an apprenticeship but seek to have their competence validated. Information on this scheme is available on request from ECITB offices.

For more information about career progression you can go to the ECITB website.

2. Qualification Structure

2.1 Level 5 Diploma in Cost Engineering Practice

To achieve this qualification, candidates must attain a minimum of 140 credits made up of:

- all **SEVENTEEN** of the Mandatory Units (116 credits)
- plus
- a minimum **FOUR** unit from the Optional Units (minimum 24 credits)

MANDATORY UNITS – candidates must achieve all SEVENTEEN units to a total of 116 credits

Ref. Number	Unit Title	Level	Credit
PC - UA 96	Oversee the application of information technology (IT) to cost engineering	6	7
PC - UA 97	Acquire and handle information needed for cost engineering	5	11
PC - UA 20	Determine the requirements for Project Control, Estimating, Planning, Cost Engineering or Commercial Support	5	5
PC - UA 87	Identify and quantify emerging changes through cost engineering activities	4	7
PC - UA 98	Assure and control the quality of cost engineering procedures, methods and systems	5	7
PC - UA 19	Plan and implement the continuous improvement of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support	6	4
PC - UA 50	Ensure the completion of Project Control, Estimating, Planning, Cost Engineering or Commercial Support tasks	4	4
PC - UA 51	Evaluate Project Control, Estimating, Planning, Cost Engineering or Commercial Support performance, information and data	4	4
PC - UA 10	Provide advice and support to maintain progress in Project Control, Estimating, Planning, Cost Engineering or Commercial Support	5	12
PC - UA 13	Manage the continuing development of personal and professional skills in Project Control, Estimating, Planning, Cost Engineering or Commercial Support	4	2
PC - UA 16	Develop and maintain effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support relationships	5	9
PC - UA 18	Observe and apply professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support ethics and values	3	2
PC - UA 81	Identify, analyse, evaluate and monitor risk opportunities and uncertainties, in the areas of project control, cost engineering, estimating or planning	6	10
PC - UA 30	Develop the breakdown coding structures through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities	5	8
PC - UA 31	Establish budgets for Project Control, Estimating, Planning, Cost Engineering or Commercial Support control purposes	5	8
PC - UA 43	Forecast the cost of resources used through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities	5	10
PC - UA 83	Monitor, control and report on exposure, commitment and expenditure through project control, cost engineering, estimating or planning activities	4	6

OPTIONAL UNITS – candidates must achieve a minimum of THREE units to attain at least 11 credits

ONE unit must be taken from EACH of the following TWO groups:

PC-UA 56, PC-UA 77, PC-UA 82

PC-UA 47, PC-UA 48, PC-UA 54, PC-UA 75

A further TWO units to be taken from the following group.

PC-UA 11, PC-UA 12, PC-UA 15, PC-UA 21, PC-UA 52, PC-UA 60

Ref. Number	Unit Title	Level	Credit
PC - UA 11	Manage the team, agree objectives with teams and individuals in Project Control, Estimating, Planning, Cost Engineering or Commercial Support	5	8
PC - UA 12	Manage the team and allocate work in Project Control, Estimating, Planning, Cost Engineering or Commercial Support	5	9
PC - UA 15	Develop the professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support skills of team members	6	9
PC - UA 21	Estimate the cost of resources through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities	5	14
PC - UA 52	Analyse and interpret statistical data for Project Control, Estimating, Planning, Cost Engineering or Commercial Support	6	6
PC - UA 60	Apply financial controls and techniques to Project Control, Estimating, Planning, Cost Engineering or Commercial Support	4	3
PC - UA 56	Identify and promote cost or time savings through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities during the concept and definition phases	5	8
PC - UA 77	Lead the functional input to the establishment of the construction or manufacturing execution plan and construction or manufacturing sequence	5	7
PC - UA 82	Participate in the optimisation of the production or construction method through project control, cost engineering, estimating or planning activities	5	12
PC - UA 47	Evaluate the Project Control, Estimating, Planning, Cost Engineering or Commercial Support information and prepare claim submissions	5	9
PC - UA 48	Provide Project Control, Estimating, Planning, Cost Engineering or Commercial Support to the agreement of claims	5	8
PC - UA 54	Develop and calibrate learning curve models for recurring tasks for Project Control, Estimating, Planning, Cost Engineering or Commercial Support	6	9
PC - UA 75	Contribute to commercial activities through project control, cost engineering, estimating or planning activities	4	8

2.2 Unit summaries

Mandatory Units

PC - UA 96: Oversee the application of information technology (IT) to cost engineering

This unit enables the assessment of the learner's competence in overseeing the application of IT in the execution of the cost engineering function. It is expected that the competence will include the application of proprietary, specialist or bespoke software and IT systems to meet specific functional needs.

PC - UA 97: Acquire and handle information needed for cost engineering

This unit enables the assessment of the learner's competence in the acquisition and handling of information (data and knowledge management) needed for cost engineering activities to meet the operational requirements.

PC - UA 20: Determine the requirements for Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables the assessment of the learner's competence to determine and progress the requirements for delivering a Project Control, Estimating, Planning, Cost Engineering or Commercial Support service.

PC - UA 87: Identify and quantify emerging changes through cost engineering activities

This unit enables the assessment of the learner's competence to identify and quantify emerging changes through cost engineering activities whether caused by internal or external difficulties or opportunities.

PC - UA 98: Assure and control the quality of cost engineering procedures, methods and systems

This unit enables the assessment of the learner's competence to ensure there is the commitment and skills to achieve the required levels of quality in the execution of cost engineering activities. This can be their own commitment and skills and/ or those of others (depending on the size of the organisation).

This unit enables the assessment of the learner's competence to ensure that appropriate systems, QA procedures and working methods are in place for the achievement of the necessary delivery and control of the work scope.

Effective implementation and development of working procedures, methods and systems requires demonstrable competence, effective communication and appropriate co-ordination.

PC - UA 19: Plan and implement the continuous improvement of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables assessment of the learner's competence to plan and implement the continuous improvement of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support operations.

PC - UA 50: Ensure the completion of Project Control, Estimating, Planning, Cost Engineering or Commercial Support tasks

This unit enables the assessment of the learner's competence to ensure close out of tasks have been completed satisfactorily such that all project control, estimating, planning, cost engineering or commercial support tasks are: fully auditable, final financial statements completed, claims settled, data is retrievable for reuse and feedback.

PC - UA 51: Evaluate Project Control, Estimating, Planning, Cost Engineering or Commercial Support performance, information and data

This unit has been designed to assess the learner's competence to evaluate the performance of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support functions to be used as a basis for continuous improvements in operational practices.

This is an ongoing process with lessons learnt being implemented, wherever possible rather than left to the end of the work, and applied to future tasks.

Areas to be considered for evaluation will include: client or customer relations, procedures for Project Control, Estimating, Planning, Cost Engineering or Commercial Support, contract winning and management and auditing.

PC - UA 10: Provide advice and support to maintain progress in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables the assessment of learner's competence to provide advice and support to maintain the progress of work scope delivery activities within Project Control, Estimating, Planning, Cost Engineering or Commercial Support.

PC - UA 13: Manage the continuing development of personal and professional skills in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables assessment of the learner's competence to manage their own personal and professional development within Project Control, Estimating, Planning, Cost Engineering or Commercial Support on a continuous basis and involves being clear about your work objectives and personal goals; knowing the skills and knowledge you need and the extent to which you have what you need; planning your development and acting on the plan; evaluating the effectiveness of your development actions and identifying more effective ways to learn in the future.

PC - UA 16: Develop and maintain effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support relationships

This unit enables the assessment of the learner's competence to develop and maintain productive and effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support relationships with colleagues within and without the organisation. With the objective of facilitating the delivery of their professional work responsibilities to the benefit of the organisation.

"Colleagues" are any person the learner must have a working relationship with regardless of status, position, organisation or function they belong to.

PC - UA 18: Observe and apply professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support ethics and values

This unit enables assessment of the learner's competence to observe and apply integrity and professional ethics and values in the execution of their Project Control, Estimating, Planning, Cost Engineering or Commercial Support responsibilities.

PC - UA 81: Identify, analyse, evaluate and monitor risk opportunities and uncertainties, in the areas of project control, cost engineering, estimating or planning

This unit enables the assessment of the learner's competence to: participate with others in the identification, analysis, evaluation and monitoring of opportunity and uncertainty in their functional area and to advise appropriate contingencies and action plans throughout the course of the project or business delivery. The context of this unit is the commercial impact of technical and business risks, opportunities and uncertainties, and their potential influence on the outcomes or performance of the project or business.

PC - UA 30: Develop the breakdown coding structures through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities

This unit enables the assessment of the learner's competence to develop breakdown and other coding structures, through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities in order to manage the development of work scope definition, cost, schedule and resource reporting and performance measurement.

PC - UA 31: Establish budgets for Project Control, Estimating, Planning, Cost Engineering or Commercial Support control purposes

This unit enables the assessment of the learner's competence to establish the budgets for cost control through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities and specify the resources required to achieve the defined objectives.

PC - UA 43: Forecast the cost of resources used through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities

This unit enables the assessment of the learner's competence to forecast the use of financial or physical resources through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities.

PC - UA 83: Monitor, control and report on exposure, commitment and expenditure through project control, cost engineering, estimating or planning activities

This unit enables the assessment of the learner's competence to monitor, control, and report on exposure, commitment and expenditure through Project Control, Cost Engineering, Estimating or Planning activities in order to meet the requirements.

Optional Units

PC - UA 11: Manage the team, agree objectives with teams and individuals in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables assessment of the learner's competence to agree objectives, and work plans, with the team and individuals, so that they can achieve the organisation's objectives within Project Control, Estimating, Planning, Cost Engineering or Commercial Support.

PC - UA 12: Manage the team and allocate work in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables the assessment of the learner's competence to allocate work and make the best use of the team and its members within Project Control, Estimating, Planning, Cost Engineering or Commercial Support, so that they can make best use of team members' abilities, achieve the organisation's objectives and provide opportunities for them to learn and develop in their roles.

PC - UA 15: Develop the professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support skills of team members

This unit enables assessment of the learner's competence to support the personal and professional development of professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support practitioners working in a team under the Learners supervision. Within the team they are expected to: stimulate a learning culture, provide learning opportunities and instruct and mentor the team.

PC – UA 21: Estimate the cost of resources through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities

This unit enables assessment of the learner's competence to support the personal and professional development of professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support practitioners working in a team under the Learners supervision. Within the team they are expected to: stimulate a learning culture, provide learning opportunities and instruct and mentor the team.

PC - UA 52: Analyse and interpret statistical data for Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables the assessment of the learner's competence to research, analyse and interpret observed or reported data that might be used in relation to Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities and outputs.

Practitioners who are competent in this unit will be able to make judgements based on formal analysis of data available through recognised statistical procedures

PC - UA 60: Apply financial controls and techniques to Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables the assessment of the learner's competence to research, analyse and interpret observed or reported data that might be used in relation to Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities and outputs.

Practitioners who are competent in this unit will be able to make judgements based on formal analysis of data available through recognised statistical procedures

PC - UA 56: Identify and promote cost or time savings through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities during the concept and definition phases

This unit enables the assessment of the learner's competence to participate, with others, in the establishment and execution of target costs or schedules for business deliverables through the application of cost or time minimisation or optimisation through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities during the concept and definition phases of the life cycle.

It is expected that practitioners would work with colleagues and peers to implement a culture of: target costing, value engineering or associated practices.

PC - UA 77: Lead the functional input to the establishment of the construction or manufacturing execution plan and construction or manufacturing sequence

This unit has been designed to assess learner competence in: leading input into the construction or manufacturing execution plan and the construction or manufacturing sequence; establishing how the plan and sequence impact on functional activities and updating related procedures and assumptions in response to this; understanding what impacts the effectiveness/efficiency of the execution plan and; demonstrating background knowledge and understanding of relevant technologies, processes, logistics and local factors that can impact the effectiveness/efficiency of the execution plan and sequence.

Within the context of this unit manufacturing also includes assembly.

PC - UA 82: Participate in the optimisation of the production or construction method through project control, cost engineering, estimating or planning activities

This unit enables the assessment of the learner's competence to participate with others, in establishing efficient production or construction practices and methods throughout the life cycle, through Project Control, Cost Engineering, Estimating or Planning activities considering such factors as; time required to carry out a task, manpower, plant and equipment, space, shift patterns and energy requirements.

It is expected the Project Control, Cost Engineering, Estimating & Planning practitioners will have a good appreciation of engineering design, production or construction, and would work with colleagues and peers to implement good practice cultures.

PC - UA 47: Evaluate the Project Control, Estimating, Planning, Cost Engineering or Commercial Support information and prepare claim submissions

This unit enables the assessment of the learner's competence to evaluate the Project Control, Estimating, Planning, Cost Engineering or Commercial Support information that is relevant to a claim and to prepare the claim submission.

PC - UA 48: Provide Project Control, Estimating, Planning, Cost Engineering or Commercial Support to the agreement of claims

This unit enables the assessment of the learner's competence to provide commercial, project control, estimating, planning or cost engineering support to reaching agreement on a claim between the parties concerned.

PC - UA 54: Develop and calibrate learning curve models for recurring tasks for Project Control, Estimating, Planning, Cost Engineering or Commercial Support

This unit enables the assessment of the learner's competence to analyse, apply and interpret learning curve theory as a predictive technique for future costs for Project Control, Estimating, Planning, Cost Engineering or Commercial Support.

PC - UA 75: Contribute to commercial activities through project control, cost engineering, estimating or planning activities

This unit has been designed to assess the learner's competence to provide commercial support to the operation through Project Control, Cost Engineering Estimating or Planning activities by contributing to the: the evaluation of suppliers, bids or tenders and; the development of bids, or tenders;

The competence contained within this Unit is concerned with both inputting to the evaluation of suppliers and inputting to the development of bids.

This competence may be practiced either as Client organisation selecting a contractor or, a Contracting organisation: selecting a supplier or sub-contractor or; inputting to the response to a bid.

3. Level 5 Diploma in Cost Engineering Practice

PC - UA 96: Oversee the application of information technology (IT) to cost engineering

Title	Oversee the application of information technology (IT) to cost engineering
Level	6
Credit value	7
Learning outcomes	Assessment Criteria
The learner will: 1. Lead the application of IT in cost engineering for collection and processing of commercial and technical data reporting current status and predicting future status.	The learner can: 1.1 Contribute to recommendations about the choice and use of software tools and IT systems. 1.2 Share own skills and understanding to help others. 1.3 Analyse the implementation, outputs and effectiveness of the IT applications and take steps to improve any weaknesses. 1.4 Recommend and implement security measures to protect the confidentiality and integrity of data held in IT systems.
2. Be a competent user of the IT applications in the area of cost engineering.	2.1 Extract, enter, edit, and process information from a range of sources. 2.2 Structure information and create reports to meet the customer's needs. 2.3 Ensure there is an interface between IT and data systems to meet the intended project or business operational requirements.
3. Understand the functionality of the various systems used.	3.1 Explain the attributes and limitations of available software tools, including web- based applications. 3.2 Explain the means by which selected IT tools can be customised or improved to suit the intended project or business needs. 3.3 Explain factors to be considered in making recommendations as to software choices. 3.4 Explain the operational requirements of the IT systems. 3.5 Describe the sources and flow paths of data used. 3.6 Explain methods that can be used to assess the effectiveness of IT applications. 3.7 Describe the systems and measures that can be used to ensure data security.
4. Understand the use of the IT applications in the area of cost engineering.	4.1 Describe ways of extracting, entering, editing, and processing information and formatting reports. 4.2 Describe methods for validation and verification of application outputs.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence in overseeing the application of IT in the execution of the cost engineering function. It is expected that the competence will include the application of proprietary, specialist or bespoke software and IT systems to meet specific functional needs.
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Unit: ECIPC1
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competence at Level 6 has to be demonstrated using:</p> <ol style="list-style-type: none"> 1. Software tools 2. Range of sources 3. Customers 4. Security measures 5. IT systems <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <p>4. Engineering and manufacturing technologies</p> <p>5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	November 2014
Unit guided learning hours	39

PC - UA 97: Acquire and handle information needed for cost engineering

Title	Acquire and handle information needed for cost engineering
Level	5
Credit value	11
Learning outcomes	Assessment Criteria
The learner will: 1. Acquire and handle information (data and knowledge management) needed to deliver a cost engineering service.	The learner can: 1.1 Define the information and data requirements and identify the sources from which it will be obtained. 1.2 Establish a means of capturing and recording outturn data so that this can be re-used. Recognise the benefits of using outturn data in future. 1.3 Verify that information sources are capable of providing the information that meets the needs of the cost engineering activities. 1.4 Resolve the problems that arise when the required information and data cannot be found. 1.5 Ensure the information is acquired in a timely manner compatible with the agreed schedules. 1.6 Ensure the context to which the information or data relates is established, communicated or recorded.
2. Establish, verify, control and protect the information and data quality and implement the associated access arrangements.	2.1 Interrogate the quality and consistency of the information and data. 2.2 Implement the systems for information storage for controlled access and retrieval in accordance with organisational procedures. 2.3 Establish that the protection of the acquired information accords with its value to the organisation and is within agreed stipulations from the provider and complies with the customer's and organisation's procedures. 2.4 Determine a project or contract baseline that provides a basis for change control.
3. Understand the process for retrieval, recording, presenting, storing and validating cost engineering related information.	3.1 Describe sources of information suitable for the activity. 3.2 Explain how to derive information from information sources. 3.3 Explain how information is validated against the requirements. 3.4 Explain principles and methods for organising, storing, and retrieving information.
4. Understand the processes for protecting and controlling data.	4.1 Describe procedures and systems for security and confidentiality of information. 4.2 Explain why version control of information is important. 4.3 Explain what constitutes commercially sensitive information, how it is used in projects and business operations.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence in the acquisition and handling of information (data and knowledge management) needed for cost engineering activities to meet the operational requirements.
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Unit PC 9
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of cost engineering.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competence at Level 5 has to be demonstrated using:</p> <ol style="list-style-type: none"> 1. Information 2. Providers 3. Sources of Information 4. Systems for information storage 5. Protection <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	November 2014
Unit guided learning hours	44

PC - UA 20: Determine the requirements for Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Determine the requirements for Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	5
Credit value	5
Learning outcomes	Assessment Criteria
The learner will: 1. Determine the requirements to deliver an effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support service.	The learner can: 1.1 Source input information to develop a clear understanding of the scope and operational objectives. 1.2 Instigate action to clarify and verify the requirements where the information is insufficient. 1.3 Identify feasible options for carrying out the activities that are compatible with the achievement of the objectives. 1.4 Identify areas of risk, opportunities and uncertainty and options for reducing risk and realising opportunities, and improving outcomes. 1.5 Identify and make use of specialist advice where the impact of operational factors cannot be adequately assessed. 1.6 Obtain the contribution of customers to decisions in a manner likely to encourage continuing support. 1.7 Interpret the customer requirements
2. Determine the processes to be used in delivering the Project Control, Estimating, Planning, Cost Engineering or Commercial Support.	2.1 Develop criteria which enables the preferred means of carrying out the activity to be selected from the available alternatives 2.2 Define the methods, practices, procedures, and systems that are to be used to meet the requirements. 2.3 Identify and describe opportunities for innovation in the implementation of functional processes that can be realised in delivery of the proposal.
3. Understand how the delivery environment influences the requirements.	3.1 Describe the significance of outside influences on objectives including legislative and regulatory requirements. 3.2 Describe factors of particular significance to the industry. 3.3 Describe the industrial relations environment. 3.4 Describe the business environment and related project activities. 3.5 Describe reporting requirements. 3.6 Describe potential impacts of the supply chain on the schedule and estimate to complete. 3.7 Describe the application of Project constraints.
4. Understand the processes used for determination of requirements.	4.1 Describe means of assessing adequacy of information. 4.2 Describe risk, opportunity and uncertainty management techniques. 4.3 Describe the techniques for defining measurable outcomes. 4.4 Describe the organisation's procedures and systems available as source material. 4.5 Describe communication and presentation techniques that can be used to convey the essential features of the proposals. 4.6 Describe the application of Breakdown and Coding structures to defining and underpinning the scope and strategy.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to determine and progress the requirements for delivering a Project Control, Estimating, Planning, Cost Engineering or Commercial Support service.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 20
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competence at Level 6 has to be demonstrated using:</p> <ol style="list-style-type: none"> 1. Input information 2. Means of carrying out the activity 3. Criteria to select means of implementation 4. Customers <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	19

PC - UA 87: Identify and quantify emerging changes through cost engineering activities

Title	Observe Identify and quantify emerging changes through cost engineering activities
Level	4
Credit value	7
Learning outcomes	Assessment Criteria
The learner will: 1. Identify and quantify emerging changes through cost engineering activities	The learner can: 1.1 Review and evaluate progress against schedules and budgets. 1.2 Ensure that clear authorisation for all stages of work have been given. 1.3 Ensure the activities and resources are monitored, and controlled in line with the plans, budgets, or schedules and where necessary adjusted. 1.4 Identify areas requiring change and seek opportunities to minimise disruption. 1.5 Consult with stakeholders and make agreed adjustments to activities, resources and plans. 1.6 Ensure that adjustments are accurately coded, recorded and stored securely. 1.7 Ensure that both internal and external changes are scoped and approved before committing to implementation.
2. Understand the methods used in cost engineering for Identifying and quantifying emerging changes	2.1 Describe examples of how to minimise disruption where changes are needed. 2.2 Explain methods that can be used for maintaining change control. 2.3 Describe methods for keeping stakeholders informed of the implications of changes to scope and completion. 2.4 Describe means of obtaining team members agreement to changes in plans.
3. Understand the change management process.	3.1 Describe the practices and procedures for classifying and managing both internal and external changes.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to identify and quantify emerging changes through cost engineering activities whether caused by internal or external difficulties or opportunities.
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Unit PC 49
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of cost engineering.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit. Competences at Level 4 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Types of review and evaluation. 2. Changes. 3. Stakeholders. <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <p>4. Engineering and manufacturing technologies</p> <p>5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	November 2014
Unit guided learning hours	12

PC - UA 98: Assure and control the quality of cost engineering procedures, methods and systems

Title	Assure and control the quality of cost engineering procedures, methods and systems
Level	5
Credit value	7
Learning outcomes	Assessment Criteria
The learner will:	The learner can:
1. Ensure that there is the commitment and skills to meet the required levels of quality in the execution of cost engineering activities.	1.1 Verify that the procedures within your organisation's quality management system (QMS) applicable to relevant activities are appropriate and sufficient to meet requirements. 1.2 Ensure commitment to the quality assurance procedures in carrying out the functional activities. 1.3 Ensure that data is gathered, processed, and recorded in accordance with the agreed quality assurance procedures. 1.4 Ensure that records meet the needs of quality audits. 1.5 Ensure training needs are met.
2. Ensure that appropriate procedures, methods and systems are in place for the achievement of the necessary control.	2.1 Specify the requirements for procedures, methods and systems and obtain the agreement from those responsible for implementing. 2.2 Define the authorities and responsibilities for all the activities contained within the procedures, methods and systems. 2.3 Manage and implement the procedures, methods and systems for defined work scope. 2.4 Explain to stakeholders the procedures, methods, systems, and authorities and responsibilities contained within them.
3. Carry out reviews and contribute to the development and implementation of procedures including quality assurance procedures and working methods applicable to cost engineering activities.	3.1 Review existing systems, procedures and quality assurance procedures to verify that they are applicable and fit for purpose and, propose improvements if required. 3.2 Accurately assess the cost engineering outcomes and performance against the specified requirements and targets. 3.3 Identify non-conformances and report them clearly to the appropriate people. 3.4 Put in place corrective actions to deal with non-conformances and to limit their damaging effects.
4. Understand the quality assurance and audit procedures and working methods.	4.1 Explain the procedures and methods relevant to your role 4.2 Explain how procedures, methods and systems relevant to your role fit into the overall quality management systems within your organisation 4.3 Explain the reporting requirements and methods that conform to the QMS including methods for demonstrating compliance. 4.4 Explain the benefits of the quality management system. 4.5 Explain the quality audit processes and the consequences of non-conformance. 4.6 Explain the relationship between the organisation's quality management and the quality assurance systems established for the function or project. 4.7 Explain the relevant authorities and accountabilities of those involved in implementing and using the functional procedures. 4.8 Explain how the quality management system supports continuous improvement.
5. Understand the context of the quality assurance procedures and working methods.	5.1 Explain the quality assurance codes and standards used by own or client organisations. 5.2 Describe the sources of information on quality assurance. 5.3 Explain the quality assurance certification procedures operated within the organisation.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit enables the assessment of the learner's competence to ensure there is the commitment and skills to achieve the required levels of quality in the execution of cost engineering activities. This can be their own commitment and skills and/ or those of others (depending on the size of the organisation).</p> <p>This unit enables the assessment of the learner's competence to ensure that appropriate systems, QA procedures and working methods are in place for the achievement of the necessary delivery and control of the work scope.</p> <p>Effective implementation and development of working procedures, methods and systems requires demonstrable competence, effective communication and appropriate co- ordination.</p>
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Units: ECIPC6 and ECIPC27
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area 4.1 Engineering.</p> <p>Sector/subject areas 4. Engineering and manufacturing technologies. 5. Construction, planning and the built environment.</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	November 2014
Unit guided learning hours	25

PC - UA 19: Plan and implement the continuous improvement of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Plan and implement the continuous improvement of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	6
Credit value	4
Learning outcomes	Assessment Criteria
The learner will: 1. Plan the continuous improvement process.	The learner can: 1.1 Establish and gain approval for the continuous improvement plan. 1.2 Gain approval for the continuous improvement plan. 1.3 Assess the risks and benefits associated with the continuous improvement plans and strategies and identify contingency plans. 1.4 Establish methods for monitoring and evaluating improvement progress that relate to agreed goals and priorities.
2. Identify and use effective implementation strategies for the improvements.	2.1 Identify and agree the training needs associated with implementing process improvements. 2.2 Ensure that the agreed training has been implemented. 2.3 Communicate progress regularly to stakeholders 2.4 Evaluate that the changes and developments are effective meet the needs of the organisation. 2.5 Use formal reviews at the end of project phases to capture lessons learned 2.6 Analyse and resolve problems and barriers to implementing process improvement as they occur.
3. Understand the continuous improvement process.	3.1 Describe internal and external sources of specialist advice that can contribute to developing and implementing changes and improvements. 3.2 Describe the organisation's resources that can contribute to developing and implementing changes and improvements. 3.3 Describe ways of managing customer expectations. 3.4 Explain implications of funding sources and budgetary restraints. 3.5 Describe Risk analysis and management as applied to operational change and development programmes. 3.6 Describe how to recognise and use different decision-making processes and styles. 3.7 Describe how data can be managed to enable it to be available for use elsewhere. 3.8 Explain the methods of planning and progress monitoring.
4. Understand the training and communication required for effective continuous improvement.	4.1 Describe how identified training needs are implemented in line with approved procedures. 4.2 Describe how organisation's communication channels, both formal and informal can be used. 4.3 Describe methods that can be used to help make changes in working practices.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables assessment of the learner's competence to plan and implement the continuous improvement of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support operations.
Unit expiry date	31/10/2015
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 19
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 6 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Identified improvements 2. Contingency plans 3. Interested parties <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/11/2010
Unit guided learning hours	13

PC - UA 50: Ensure the completion of Project Control, Estimating, Planning, Cost Engineering or Commercial Support tasks

Title	Ensure the completion of Project Control, Estimating, Planning, Cost Engineering or Commercial Support tasks
Level	4
Credit value	4
Learning outcomes	Assessment Criteria
The learner will: 1. Ensure that all functional tasks have been completed satisfactorily and closed out.	The learner can: 1.1 Verify that the task objectives have been achieved to the agreed schedule, costs and quality criteria. 1.2 Obtain agreements from suppliers and contractors that all budgeted payments have been authorised and paid including scheduled and non-scheduled works. 1.3 Ensure that all Project Control, Estimating, Planning, Cost Engineering or Commercial Support deliverables are handed over in accordance with the agreed procedures. 1.4 Obtain agreements from stakeholders' management that all Project Control, Estimating, Planning, Cost Engineering or Commercial Support work has been achieved. 1.5 Ensure that all task documents and records relating to Project Control, Estimating, Planning, Cost Engineering or Commercial Support are accurate, complete, and stored for re use.
2. Understand the methods used for closure of functional tasks.	2.1 Explain how to deal with items of non-compliance for closure. 2.2 Explain methods of ensuring that the agreed deliverables have been delivered. 2.3 Describe the procedures for finance, resources and personnel, which need to be followed at task closure. 2.4 Describe examples of the records and documents which need to be completed. 2.5 Describe the plans and timescales for task closure. 2.6 Describe who needs to be involved in task handover and close out. 2.7 Describe the contractual obligations on the parties at completion. 2.8 Describe the use of coding structures for reporting and analysis at closure.
3. Understand the close out process.	3.1 Explain the end to end process for activity closure. 3.2 Describe sources of information about previous activity closure.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to ensure close out of tasks have been completed satisfactorily such that all project control, estimating, planning, cost engineering or commercial support tasks are: fully auditable, final financial statements completed, claims settled, data is retrievable for reuse and feedback.
Unit expiry date	31/10/2015
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 50
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 4 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Project Control, Estimating, Planning & Cost Engineering deliverables <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/11/2010
Unit guided learning hours	13

PC - UA 51: Evaluate Project Control, Estimating, Planning, Cost Engineering or Commercial Support performance, information and data

Title	Evaluate Project Control, Estimating, Planning, Cost Engineering or Commercial Support performance, information and data
Level	4
Credit value	4
Learning outcomes	Assessment Criteria
The learner will: 1. Evaluate the functional performance and extract information as a basis for continuous improvement.	The learner can: 1.1 Identify items for which feedback is required. 1.2 Gain the co-operation of interested parties in obtaining feedback and promote the positive value and benefits of obtaining and using feedback. 1.3 Identify reliable methods and sources, both for obtaining feedback and for reviewing and recommending improvements for future activities. 1.4 Identify, obtain, investigate, and assess feedback data, including project performance data and norms, for its relevance and potential use. 1.5 Record and classify potential improvements and benefits. 1.6 Present the results of the evaluation to stakeholders and recommend actions and lessons to be learned.
2. Understand the methods used to identify lessons learned and implement improvements.	2.1 Explain how to identify areas for evaluation. 2.2 Explain how to identify sources of relevant feedback. 2.3 Describe examples of methods for obtaining feedback. 2.4 Describe methods of identifying and justifying the use of new data, and for recommending improvements. 2.5 Explain how to analyse feedback data. 2.6 Describe ways of promoting and presenting results. 2.7 Describe the organisation, systems and procedures for continuous improvement.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit has been designed to assess the learner's competence to evaluate the performance of the Project Control, Estimating, Planning, Cost Engineering or Commercial Support functions to be used as a basis for continuous improvements in operational practices.</p> <p>This is an ongoing process with lessons learnt being implemented, wherever possible rather than left to the end of the work, and applied to future tasks.</p> <p>Areas to be considered for evaluation will include: client or customer relations, procedures for Project Control, Estimating, Planning, Cost Engineering or Commercial Support, contract winning and management and auditing.</p>
Unit expiry date	31/10/2015
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 51
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 4 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Feedback 2. Feedback methods and sources 3. Benefits <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/11/2010
Unit guided learning hours	13

PC - UA 10: Provide advice and support to maintain progress in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Provide advice and support to maintain progress in Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	5
Credit value	12
Learning outcomes	Assessment Criteria
The learner will: 1. Identify research and gain support for solutions to threats to progress.	The learner can: 1.1 Identify threats to the achievement of progress and threats to budgets. 1.2 Collate and verify information that is relevant to understanding the threats and develop proposed solutions. 1.3 Seek and obtain the support of and contributions from other team members in developing solutions. 1.4 Obtain agreement to the proposals in line with approved procedures.
2. Provide advice and support to maintain the progress.	2.1 Provide advice, support and make proposals. 2.2 Provide advice and support that helps to maintain or accelerate progress or recover slippage.
3. Understand the processes for identification, research and overcoming blockages.	3.1 Describe analytical and review techniques to establish the nature of problems and the causes. 3.2 Describe means of developing problem solution options and reviewing the options developed by others. 3.3 Explain how key issues including technical, commercial, and regulatory matters can impact on the progress. 3.4 Explain how the relationships between own organisation and other parties involved in the project and business, may affect the advice and support offered.
4. Understand the processes for gaining buy in and support to overcome blockages.	4.1 Describe presentation and reporting techniques. 4.2 Describe means of demonstrating trust, giving encouragement and reinforcing confidence. 4.3 Describe communication techniques that will help to produce agreement and support.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of learner's competence to provide advice and support to maintain the progress of work scope delivery activities within Project Control, Estimating, Planning, Cost Engineering or Commercial Support.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 10
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Types of Threat 2. Customers 3. Advice and support <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2010
Unit guided learning hours	40

PC - UA 13: Manage the continuing development of personal and professional skills in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Manage the continuing development of personal and professional skills in Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	4
Credit value	2
Learning outcomes	Assessment Criteria
The learner will: 1. Manage personal and professional development on a continuous basis.	The learner can: 1.1 Seek feedback on current strengths and weaknesses. 1.2 Identify the personal and professional development needs to match the present and anticipated future role requirements. 1.3 Translate skill and competence needs into realistic development plans. 1.4 Review regularly and gain approvals and authorisations to implement a personal development plan. 1.5 Develop own knowledge, understanding, and skills in line with development plan and take advantage of any unplanned opportunities that may arise. 1.6 Identify people and organisations that can provide support for personal development. 1.7 Ensure progress is regularly reviewed and use the feedback to continue personal and professional development to meet the demands of changing situations.
2. Help in the development of others.	2.1 Share learning with others.
3. Understand the processes for agreeing personal objectives, and development plans.	3.1 Describe the knowledge and skills required for the current and likely future roles. 3.2 Describe own personal goals and aspirations. 3.3 Describe the standards of performance expected of them. 3.4 Describe the learning opportunities and resources available. 3.5 Describe the likely sources of feedback on performance and review against development plan progress. 3.6 Describe learning styles and methods.
4. Understand the need for continued professional development.	4.1 Explain the requirements for continuing professional development stemming from the organisation, the business or industrial sector in which it operates and any professional body to which they belong.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables assessment of the learner's competence to manage their own personal and professional development within Project Control, Estimating, Planning, Cost Engineering or Commercial Support on a continuous basis and involves being clear about your work objectives and personal goals; knowing the skills and knowledge you need and the extent to which you have what you need; planning your development and acting on the plan; evaluating the effectiveness of your development actions and identifying more effective ways to learn in the future.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 13
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competence at Level 4 has to be demonstrated using:</p> <ol style="list-style-type: none"> 1. Development plans 2. Approvals and authorizations 3. Support for development <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	7

PC - UA 16: Develop and maintain effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support relationships

Title	Develop and maintain effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support relationships
Level	5
Credit value	9
Learning outcomes	Assessment Criteria
The learner will: 1. Develop and maintain productive and effective working relationships with colleagues: within the project, functional teams and other associated organisations.	The learner can: 1.1 Establish relationships with all colleagues who are relevant to the work being undertaken. 1.2 Make those relationships productive in delivering results for the customer and the organisation. 1.3 Recognise and respect the roles and responsibilities of colleagues. 1.4 Respond with appropriate decisions and actions based on priorities, expectations, and authority of colleagues. 1.5 Keep promises, honour commitments made and make time to support others. 1.6 Exchange information to support the effective implementation of the project, within the approved procedures and practices of the project team and the organisation overall.
2. Effectively resolve conflicts.	2.1 Resolve conflicts of interest and disagreements in ways that minimise damage to the project and the organisation overall.
3. Understand the processes for Developing and maintain productive and effective working relationships.	3.1 Describe how the technical and commercial requirements of the project influence the behaviour and motivations of colleagues. 3.2 Describe the standards of behaviour and performance expected by the project and the organisation overall. 3.3 Describe the decision making processes and responsibilities within the project team. 3.4 Describe the work roles and responsibilities of colleagues. 3.5 Describe the management responsibilities within the project team and within the organisation.
4. Understand techniques to facilitate relationship development and conflict management.	4.1 Describe techniques that can be used to help resolve conflicts. 4.2 Describe techniques that can be used to help select and build effective teams.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit enables the assessment of the learner's competence to develop and maintain productive and effective Project Control, Estimating, Planning, Cost Engineering or Commercial Support relationships with colleagues within and without the organisation. With the objective of facilitating the delivery of their professional work responsibilities to the benefit of the organisation.</p> <p>"Colleagues" are any person the learner must have a working relationship with regardless of status, position, organisation or function they belong to.</p>
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 16
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Colleagues <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area 4.1 Engineering</p> <p>Sector/subject areas 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	30

PC - UA 18: Observe and apply professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support ethics and values

Title	Observe and apply professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support ethics and values
Level	3
Credit value	2
Learning outcomes	Assessment Criteria
The learner will: 1. Observe and apply professional ethics and values.	The learner can: 1.1 Keep informed about the professional ethics that should be applied. 1.2 Incorporate the application of professional ethics and values into professional activities. 1.3 Be aware of the professional codes of conduct, standards, regulations and guidelines that are relevant to professional activities. 1.4 Maintain a duty of care towards clients and customers. 1.5 Identify and report any potential or actual cases of professional malpractice in accordance with approved procedures. 1.6 Identify the authoritative sources of information on professional ethics and values.
2. Effectively resolve conflicts of interest.	2.1 Identify and report any conflicts of interest in accordance with approved procedures.
3. Understand the areas where professional ethics and values apply in the execution of work.	3.1 Describe where to obtain authoritative sources information on professional codes of conduct, standards, regulations and guidelines relevant to activities. 3.2 Describe what constitutes a duty of care. 3.3 Explain what types of conflict of interest and professional malpractice could occur and how should they be resolved. 3.4 Describe who can be contacted within the organisation for guidance and advice In the event of uncertainty over a professional ethics and values issue. 3.5 Describe how the following are reflected in the values of the organisation: health, safety and environmental regulations, codes and practices applicable to the organisation, the business and its industrial sector. 3.6 Describe the legislative and regulatory frameworks within which the organisation carries out its business.
4. Understand techniques for managing commercially sensitive information.	4.1 Describe how the commercial confidentiality of information supplied to, and held within, the organisation is safeguarded: typically own, suppliers or clients information.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables assessment of the learner's competence to observe and apply integrity and professional ethics and values in the execution of their Project Control, Estimating, Planning, Cost Engineering or Commercial Support responsibilities.
Unit expiry date	31/10/2015
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 18
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 3 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Application of professional ethics 2. Those responsible <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/11/2010
Unit guided learning hours	10

PC - UA 81: Identify, analyse, evaluate and monitor risk opportunities and uncertainties, in the areas of project control, cost engineering, estimating or planning

Title	Identify, analyse, evaluate and monitor risk opportunities and uncertainties, in the areas of project control, cost engineering, estimating or planning
Level	6
Credit value	10
Learning outcomes	Assessment Criteria
The learner will:	The learner can:
1. Apply risk, opportunity and uncertainty identification, analysis and evaluation techniques to assess the commercial impact.	1.1 Contribute to the identification and review of perceived risk, opportunity and uncertainty with stakeholders. 1.2 Contribute to the ranking and recording of identified risks, opportunities and uncertainties. 1.3 Analyse and evaluate the risks, opportunities and uncertainties to establish the potential consequences. 1.4 Evaluate options for controlling perceived risks, opportunities and uncertainties.
2. Monitor and evaluate control measures as applied to risks, opportunities and uncertainties.	2.1 Monitor the actions being taken to deal with the identified risks, opportunities and uncertainties, in line with procedures. 2.2 Liaise with other stakeholders to ensure that up to date information and advice is obtained on the consequences of the mitigation actions. 2.3 Maintain and update the records of the project implications, and the associated provisions for mitigation or promotion actions.
3. Contribute to the development and review of contingency and provisions throughout the course of the project or business.	3.1 Contribute to the development, review and amendment of contingencies and action plans to deal with emerging or retiring areas of risk, opportunity and uncertainty. 3.2 Review emerging risks, opportunities and uncertainties to establish the potential consequences in relation to existing contingencies. 3.3 Provide advice to others to deal with identified shortcomings found in the actions being taken and the project consequences being identified.
4. Understand the risk, opportunity and uncertainty analysis, monitoring and management process.	4.1 Explain the difference between risk, opportunity and uncertainty. 4.2 Explain the means of identifying the potential consequences of risks, opportunities and uncertainties. 4.3 Explain qualitative and quantitative techniques. 4.4 Describe probability analysis and modelling in relation to risk, opportunity and uncertainty. 4.5 Explain the management and control of risk, opportunity and uncertainty in your organisation. 4.6 Explain the potential consequences of risks, opportunities and uncertainties. 4.7 Describe the presentation of risk, opportunity and uncertainty information. 4.8 Explain the procedures for updating risk, opportunity and uncertainty records and any associated mitigating or promoting action. 4.9 Explain assumptions, dependencies and exclusions and their relationship to risk, opportunity and uncertainty.
5. Understand the management of risk, opportunity and uncertainty analysis	5.1 Explain the relevant environment, terminology, systems and procedures within which risk, opportunity and uncertainty analysis techniques are managed in your organisation. 5.2 Explain why there are risk implications arising from relevant legislation, regulations and codes of practice. 5.3 Describe the techniques for collecting and evaluating relevant information and ensuring its consistency. 5.4 Explain how internal and external sources of Information can be used to support the process. 5.5 Explain how and why risk, opportunity and uncertainty levels have a bearing on contingency and contingency management.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to: participate with others in the identification, analysis, evaluation and monitoring of opportunity and uncertainty in their functional area and to advise appropriate contingencies and action plans throughout the course of the project or business delivery. The context of this unit is the commercial impact of technical and business risks, opportunities and uncertainties, and their potential influence on the outcomes or performance of the project or business.
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Units: ECIPC3 and ECIPC5.
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering.</p> <p>Sector/subject areas</p> <p>4. Engineering and manufacturing technologies.</p> <p>5. Construction, planning and the built environment.</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	July 2014
Unit guided learning hours	30

PC - UA 30: Develop the breakdown coding structures through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities

Title	Develop the breakdown coding structures through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities
Level	8
Credit value	8
Learning outcomes	Assessment Criteria
<p>The learner will:</p> <p>1. Develop the breakdown coding structures to support work scope definition, cost, schedule and resource reporting and performance measurement.</p>	<p>The learner can:</p> <p>1.1 Ensure availability of necessary information to prepare breakdown coding structure</p> <p>1.2 Develop the activities, to a sufficient accuracy and detail to support the level of scheduling and resourcing required.</p> <p>1.3 Produce coding structures, which meet the specified requirements for the work scope.</p> <p>1.4 Present the structures in formats suitable for cost and schedule integration.</p> <p>1.5 Produce structures that are sufficiently flexible to accommodate scope and strategy changes.</p> <p>1.6 Agree the breakdown and coding structures with the internal and external customer prior to implementation.</p>
<p>2. Understand the uses of, and principles behind coding structures.</p>	<p>2.1 Explain the principles and processes of developing breakdown and coding structures.</p> <p>2.2 Explain methods of relating activities to breakdown and coding structure and the advantages and disadvantages associated with them.</p> <p>2.3 Explain levels of aggregation and disaggregation in breakdown structures.</p> <p>2.4 Explain how the breakdown and coding structures can be used to select to update and manage various data sets.</p> <p>2.5 Describe the varying styles and formats for presenting breakdown and coding structures.</p> <p>2.6 Explain the interrelationship between different breakdown structures, activities and codes of accounts.</p>

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to develop breakdown and other coding structures, through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities in order to manage the development of work scope definition, cost, schedule and resource reporting and performance measurement.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 30
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Information 2. Scope 3. Activities 4. Work breakdown and coding structures <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	32

PC - UA 31: Establish budgets for Project Control, Estimating, Planning, Cost Engineering or Commercial Support control purposes

Title	Establish budgets for Project Control, Estimating, Planning, Cost Engineering or Commercial Support control purposes
Level	5
Credit value	8
Learning outcomes	Assessment Criteria
The learner will: 1. Establish budgets for control of work scope delivery.	The learner can: 1.1 Ensure that the specified activities and resources meet the requirements of the project. 1.2 Develop the budget using the cost estimates, the project schedules and the work breakdown structure 1.3 Verify that the estimated resources required for activities are specified accurately and are available in the agreed timescales. 1.4 Verify that any assumptions used in preparation of the budget are clearly stated in a basis of budget. 1.5 Identify and verify contingencies and allowances and the basis for them. 1.6 Accurately assess the scope and consequences of changes.
2. Obtain Stakeholders agreement to budget.	2.1 Present the proposed control budget to the stakeholders and obtain authorisation for use. 2.2 Obtain agreement from stakeholders for the forecast cash flow or cost and resource profile requirements.
3. Understand the processes required to prepare a control budget.	3.1 Describe classes of estimate covering their purposes and limitations. 3.2 Describe methods of determining time, cost and quality relationships and their influence on the accuracy of the total estimate and budget. 3.3 Explain direct costs, indirect costs, contingencies, allowances and fixed and variable costs. 3.4 Describe methods of increasing accuracy of budgets. 3.5 Describe methods of projecting timescales and cash flow or cost and resource profile requirements. 3.6 Describe examples of good current practice in estimating and budget preparation. 3.7 Describe means of establishing budgets for finance, human, material resources, facilities and information 3.8 Describe styles and formats for presenting budget information. 3.9 Explain the importance of budget version control.
4. Understand supporting processes to control budget preparation.	4.1 Describe the processes required to establish budgets for control purposes 4.2 Describe the sources of information required to benchmark estimates and budgets. 4.3 Describe the application of appropriate software to establish control budgets.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to establish the budgets for cost control through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities and specify the resources required to achieve the defined objectives.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 31
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Resources 2. Degree of accuracy 3. Stakeholders 4. Contingencies and allowances <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	27

PC - UA 43: Forecast the cost of resources used through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities

Title	Forecast the cost of resources used through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities
Level	5
Credit value	10
Learning outcomes	Assessment Criteria
The learner will:	The learner can:
1. Forecast the use of financial or physical resources through to completion.	1.1 Ensure that variances are identified between: planned and actual costs; income and cash flow or resource utilisation. 1.2 Analyse the root causes of variances and make recommendations for rectifying adverse trends. 1.3 Ensure production of calculations and reports as required which reflect the phasing of future expenditure and income and the anticipated cost at completion. 1.4 Determine the performance measurement baseline budget and management reserve. 1.5 Provide a bridge between the performance measurement baseline and the output from a risk, opportunity and uncertainty analysis. 1.6 Determine relevant measures for value achievement based on the cost drivers identified during the estimating phase. 1.7 Analyse performance to date and reconcile with the corresponding basis of estimate. 1.8 Generate an estimate to completion based on existing and expected performance. 1.9 Advise on the draw-down from management reserve to distributed budgets as required.
2. Establish that systems are available for forecasting the use of financial or physical resources.	2.1 Verify that the systems for collecting and collating income, expenditure, and commitment data meet the operational needs. 2.2 Establish revised systems where these are determined as being necessary to meet the needs of the organisation.
3. Understand the processes for forecasting the use of financial or physical resources.	3.1 Explain the systems for collecting and collating income, expenditure and commitment data. 3.2 Explain the nature of the causes and effects of variances. 3.3 Explain forecasting and analysis methods to help determine the anticipated financial out-turn. 3.4 Describe the sources of specialist advice available. 3.5 Describe means of reporting and presenting project financial or cost data. 3.6 Explain the use of breakdown and coding structures for reporting and analysis purposes. 3.7 Explain the methods for correlating cost achievement with schedule achievement. 3.8 Explain methods of evaluating cost consequences of schedule change. 3.9 Explain methods of assessing achievement against budget.
4. Understand other processes related to forecasting the use of financial or physical resources.	4.1 Explain change control procedures. 4.2 Explain risk analysis techniques.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to forecast the use of financial or physical resources through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 43
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Systems for collecting and collating income 2. Variances <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	33

PC - UA 83: Monitor, control and report on exposure, commitment and expenditure through project control, cost engineering, estimating or planning activities

Title	Monitor, control and report on exposure, commitment and expenditure through project control, cost engineering, estimating or planning activities
Level	4
Credit value	6
Learning outcomes	Assessment Criteria
The learner will: 1. Monitor, control and report on exposure, commitment and expenditure.	The learner can: 1.1 Verify that the income and expenditure control system is appropriate for project schedules and complies with the legal and organisational requirements. 1.2 Ensure that exposure, commitment and expenditure is regularly collected and allocated to correct accounts code or work breakdown element in accordance with requirements and the authorised procedures. 1.3 Control commitments against allocated funding. 1.4 Ensure that requests for payment approval have been accurately verified for description, quantity, price and where appropriate, conformity with the contract. 1.5 Monitor and report on project cash flow. 1.6 Ensure that the actual and predicted variances are accurate, comply with agreed financial control procedures and customers are notified with associated recommendations. 1.7 Ensure that transfers and draw-downs from contingency and allowance funding are fully documented, justified and duly approved in line with procedures. 1.8 Provide cost reports on a regular basis identifying all the cost data analysis and outturns that satisfy the customer requirements.
2. Enable Stakeholder understanding of variances and their implications.	2.1 Provide stakeholders with explanations of variances, causes, implications, and clear recommendations for action.
3. Understand the processes required to monitor, control and report on exposure, commitment and expenditure.	3.1 Explain exposure, commitment and expenditure systems and their application. 3.2 Explain means of assessing and presenting cost control monitoring information. 3.3 Explain the relationship between cost forecasting systems and the schedule. 3.4 Explain the change control processes 3.5 Explain the relationship of the reporting of exposure, commitment, and expenditure to the allocated funds. 3.6 Explain the use of breakdown and coding structures for reporting and analysis. 3.7 Explain earned value analysis.
4. Understand where specialist advice can be obtained.	4.1 Identify and describe sources of specialist advice.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to monitor, control, and report on exposure, commitment and expenditure through Project Control, Cost Engineering, Estimating or Planning activities in order to meet the requirements.
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Units: ECIPC35 and ECIPC37
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Cost Engineering Estimating or Planning.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 4 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Income and expenditure control systems 2. Exposure and expenditure 3. Variances 4. Stakeholders <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	June 2014
Unit guided learning hours	20

PC - UA 11: Manage the team, agree objectives with teams and individuals in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Manage the team, agree objectives with teams and individuals in Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	5
Credit value	8
Learning outcomes	Assessment Criteria
The learner will: 1. Agree team and individuals objectives and work plans to achieve the organisations objectives.	The learner can: 1.1 Provide opportunities for the team members to help define own objectives and work plans. 1.2 Develop objectives and work plans, which are consistent with the customer and organisation's objectives, and agree them with the team. 1.3 Ensure that objectives, work plans, and schedules are realistic and achievable within organisational constraints. 1.4 Ensure that objectives and work plans take account of individual's abilities and development needs. 1.5 Explain the objectives and work plans detail to achieve understanding, and at a level and pace appropriate to the individual. 1.6 Confirm team and individual understanding of, and commitment to, objectives and work plans at appropriate intervals.
2. Give guidance and update on agreed objectives, and work plans, with the team and individuals.	2.1 Provide advice and guidance on how to achieve objectives in sufficient detail and at times appropriate to the needs of the team and individuals. 2.2 Update the objectives and work plans, taking account of any individual, team, and organisational changes.
3. Understand the processes for agreeing objectives, and work plans, with the team and individuals.	3.1 Explain the importance of defining and communicating when planning objectives and work plans. 3.2 Explain the importance of consulting with team members and achieving consensus on objectives and work plans. 3.3 Explain how to gain the commitment of team members to objectives and work plans. 3.4 Explain how organisational objectives and constraints will have a bearing on objectives and work plans. 3.5 Explain how to identify and devise objectives and work plans for the short, medium, and long term. 3.6 Explain why it is important to agree objectives and work plans that are realistic and achievable. 3.7 Explain why it is important to regularly update objectives and work plans. 3.8 Describe the difference in setting objectives for someone who is within the manager's line management control and someone for whom the manager has functional responsibility and the implications this difference may have for planning work.
4. Understand the processes for matching the individual's development with the project or business needs, and the ongoing support that they may require.	4.1 Describe how to encourage and enable team members to define own work objectives and plans. 4.2 Describe the types of issues on which the team members may need advice and guidance. 4.3 Describe how to match objectives and work plans with individual abilities and development needs.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables assessment of the learner's competence to agree objectives, and work plans, with the team and individuals, so that they can achieve the organisation's objectives within Project Control, Estimating, Planning, Cost Engineering or Commercial Support.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 11
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Work plans 2. Constraints 3. Team members <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	27

PC - UA 12: Manage the team and allocate work in Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Manage the team and allocate work in Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	5
Credit value	9
Learning outcomes	Assessment Criteria
The learner will: 1. Allocate work and make the best use of the team and its members, to achieve the organisation's objectives.	The learner can: 1.1 Provide opportunities to the individuals and the team for them to help define the work allocation. 1.2 Arrange the work allocation to make best use of the individual's capabilities and the team's resources. 1.3 Ensure that allocated work takes account of individual's personal development needs and learning objectives. 1.4 Agree the roles and responsibilities of individual team members. 1.5 Provide information on the allocation of work at a level and pace that is appropriate to the individuals concerned. 1.6 Confirm that the individuals have a continuing understanding of, and commitment to, the allocation of work and the respective roles and responsibilities.
2. Agree revision to the agreed objectives, and work plans, with the team and individuals, as required.	2.1 Agree with the appropriate people when resources are insufficient the prioritisation of work activities and the re-allocation of the available resources. 2.2 Agree changes in work allocations in a way that minimises the impact on time, cost and quality.
3. Understand the processes for agreeing objectives, and work plans, with the team and individuals.	3.1 Explain the importance of defining and communicating team responsibilities clearly. 3.2 Describe how to communicate team and individual responsibilities clearly to those involved. 3.3 Describe how to develop and present work plans using different methods. 3.4 Explain the importance of effective allocation of work to the team's performance, and the individual's related responsibilities. 3.5 Describe the factors that need to be considered when allocating work to individuals within the team. 3.6 Describe how to match the allocation of work to learning needs and individual development plans. 3.7 Explain why team members should have the opportunity to contribute to how work allocations could be made. 3.8 Describe how to encourage team members to provide suggestions on the allocation of work, with the related increase in commitment to the responsibilities. 3.9 Explain why team objectives, and the organisational policies and values, all have a bearing on the allocation of work within the team. 3.10 Describe how to identify the relevant people with whom negotiations on the sourcing and allocation of resources need to take place. 3.11 Describe the relationships between the team and individual objectives and the organisations objectives.
4. Understand the issues that must be considered when priorities need to be changed.	4.1 Describe how to prioritise and re-prioritise work allocations according to resource availability. 4.2 Describe how changes to work allocations, can impact on cost, time and quality.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to allocate work and make the best use of the team and its members within Project Control, Estimating, Planning, Cost Engineering or Commercial Support, so that they can make best use of team members' abilities, achieve the organisation's objectives and provide opportunities for them to learn and develop in their roles.
Unit expiry date	31/10/2015
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 12
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Allocations 2. Information 3. Appropriate people <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/11/2010
Unit guided learning hours	30

PC - UA 15: Develop the professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support skills of team members

Title	Develop the professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support skills of team members
Level	6
Credit value	9
Learning outcomes	Assessment Criteria
The learner will: 1. Support the personal and professional development of supervised team members.	The learner can: 1.1 Provide team members with constructive feedback on performance. 1.2 Explore methods of improving team member's performance. 1.3 Identify and arrange suitable learning and training opportunities to enable to performance improvement. 1.4 Share skills and experience with team members 1.5 Encourage team members to share skills experiences. 1.6 Encourage team members to share skills experiences. 1.7 Support team members to achieve the experience and skills to meet the job requirements. 1.8 Review regularly team member's development needs and progress, and provide feedback to support further learning and development. 1.9 Ensure that team members' development and training records are maintained in an up to date form.
2. Understand the processes for supporting personal and professional development.	2.1 Describe how to evaluate the knowledge and skills required of the team members to meet the work scope control requirements. 2.2 Describe how to evaluate the individual goals and aspirations of team members. 2.3 Describe the basis for setting the expected individual's standards of performance. 2.4 Describe the learning opportunities and resources available. 2.5 Explain the organisation's processes and procedures for appraising and reporting individual performance and defining development needs. 2.6 Describe what learning styles and methods there are and how to match them to the individual.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables assessment of the learner's competence to support the personal and professional development of professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support practitioners working in a team under the Learners supervision. Within the team they are expected to: stimulate a learning culture, provide learning opportunities and instruct and mentor the team.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 15
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 6 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Learning opportunities 2. Coaching Training opportunities 3. Job requirements 4. Feedback <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	36

PC - UA 21: Estimate the cost of resources through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities

Title	Estimate the cost of resources through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities
Level	5
Credit value	14
Learning outcomes	Assessment Criteria
The learner will: 1. Estimate and specify the resources required to deliver the objectives at any stage of the life cycle.	The learner can: 1.1 Apply methods of estimating that conform to good practice and match the estimate purpose, the accuracy required and the quality of definition available. 1.2 Verify that the specified activities and resources to be deployed meet the requirements of the project and factor in market conditions. 1.3 Estimate the cost of resources required for activities to the required accuracy. 1.4 Ensure that the bases, assumptions and exclusions, on which estimates are based, including benchmarking and normalisation factors are clearly stated. 1.5 Profile the resource requirements over the relevant timescales to the required level of accuracy to meet the expected project and investment phasing. 1.6 Establish the requirements for any allowances and contingencies and justify their bases, including risk mitigation and opportunity promotion. 1.7 Assess accurately the scope and consequences of changes.
2. Provide estimate reports and information to others for decision purposes.	2.1 Agree the estimated cash flows or resource profiles with the internal or external customer. 2.2 Prepare a report on budgetary requirements, in sufficient detail and accuracy to be a basis for calculating financial options. 2.3 Explain to stakeholders how the estimated resources meet the operational requirements of the project.
3. Understand the processes for developing an estimate based on various levels of definition or scope.	3.1 Describe methods of determining time, cost and quality relationships and their influence on estimates. 3.2 Explain fixed and variable, direct costs, indirect costs, allowances, and contingencies. 3.3 Explain risk, opportunity and uncertainty identification and management techniques. 3.4 Describe methods of increasing the accuracy of costing and estimates. 3.5 Describe sources of information including benchmarks and activity norms. 3.6 Describe the key aspects of whole life costing 3.7 Describe means of specifying the various forms of resources. 3.8 Describe methods of estimating the costs of continuing and repeated activities found in operations and maintenance projects or recurring manufacture. 3.9 Describe the effects of common contract strategies on the content of estimates. 3.10 Describe the impact of legislative and regulatory requirements on financial resources. 3.11 Describe means of presenting the estimates to customers and stakeholders. 3.12 Explain version control in estimate development. 3.13 Describe the application of work breakdown and coding structures.
4. Understand specialist estimating techniques.	4.1 Explain estimating and profiling techniques including deterministic, probabilistic, and parametric. 4.2 Explain economic evaluation including the effects of escalation, taxation, market conditions, discounting and local working conditions. 4.3 Explain value engineering management techniques and principles. 4.4 Explain Benchmarking and Normalisation processes.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables assessment of the learner's competence to support the personal and professional development of professional Project Control, Estimating, Planning, Cost Engineering or Commercial Support practitioners working in a team under the Learners supervision. Within the team they are expected to: stimulate a learning culture, provide learning opportunities and instruct and mentor the team.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 15
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 6 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Learning opportunities 2. Coaching Training opportunities 3. Job requirements 4. Feedback <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	36

PC - UA 52: Analyse and interpret statistical data for Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Analyse and interpret statistical data for Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	6
Credit value	6
Learning outcomes	Assessment Criteria
The learner will: 1. Analyse and interpret statistical data.	The learner can: 1.1 Assess and apply adjustments to data to allow equitable comparisons to be made across different contexts sometimes known as normalisation. 1.2 Demonstrate the appropriate creation, interpretation and application of descriptive statistics to project control, estimating, planning or cost engineering information. 1.3 Apply and interpret statistical distribution theory to sample data to simulate the range of possible population values. 1.4 Analyse the underlying trend in time-based or sequential data in order to interpolate or extrapolate to given point or range. 1.5 Identify the existence or otherwise of seasonal or cyclic variations or patterns in time-based or sequential data, and quantify their impact on any future of forward point or range. 1.6 Perform linear regression analysis of data and interpret the statistical significance of its result. 1.7 Review the sensitivity of the regression analysis result through prediction or confidence limits or scenario modelling. 1.8 Resolve data anomalies using logical methods. 1.9 Provide suitable graphical representation of statistical data as an aid to analysis.
2. Understand the techniques for statistical analysis.	2.1 Describe the sources of primary, secondary or tertiary data. 2.2 Describe the principles of discounting 2.3 Describe the terminology used to reflect time-based differences examples include base year, current year or then year . 2.4 Describe the interpretation of published indices from governmental or commercial sources. 2.5 Describe the measures of central tendency and measures of dispersion. 2.6 Explain the basic properties of a number of statistical distributions. 2.7 Explain the difference between sample statistics and population statistics. 2.8 Describe examples of methods for identifying statistical outliers, or non-representative data points. 2.9 Describe the interpretation of correlation as a measure of linearity between two variables. 2.10 Describe the principles of linear regression and least squares best fit. 2.11 Describe the fundamentals of statistical hypothesis testing or significance testing.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit enables the assessment of the learner's competence to research, analyse and interpret observed or reported data that might be used in relation to Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities and outputs.</p> <p>Practitioners who are competent in this unit will be able to make judgements based on formal analysis of data available through recognised statistical procedures</p>
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 52

<p>Assessment requirements or guidance specified by a sector regulatory body (if appropriate)</p>	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 6 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Normalisation Contexts (6 from 10) Accounting Conventions (e.g. Direct or Indirect charge nominations, Overhead Structure, Charging Rates) Physical and Performance Differences (e.g. Sizing Units: Weight, Volume, Area, Length) Scale Differences (e.g. Imperial, metric, linear transformation) Life Cycle Phase Economic Conditions of Supply (e.g. Escalation, Exchange Rates, Discounting) Cost-Quantity Adjustments (e.g. learning curve, batch size, output rate) Differences in Work Content (e.g. Recurring/Non-Recurring Costs, Missing elements of work, Additional elements of work) Level of technology used Key Groupings (e.g. Products or Services by Operating Environment, systems and functionality) Seasonality Factors (Time Series Analysis) 2. Data Transformation and Data Smoothing Techniques (3 from 5) Moving or Rolling Average Exponential Smoothing Cumulative, Cumulative Average Smoothing Logarithmic (i.e. $\log x$), Exponential (i.e. $\log y$) or Power (i.e. $\log x$ and $\log y$) transformation Reciprocal transformation (i.e. inverse) 3. Descriptive Statistics used (3 from 4) Mean, Mode, Median Maximum, Minimum Variance, Standard Deviation Quartiles, Deciles, Percentiles, Confidence Levels 4. Statistical Distributions (4 from 10) Normal distribution Beta distribution F distribution Student-t distribution Triangular distribution Lognormal distribution Uniform distribution Weibull distribution Exponential distribution Other distributions 5. Purpose or Content (4 from 9) Development of Cost Estimating Relationship Development of Cost Driver Relationship Development of Schedule Estimating Relationship Development of Schedule Driver Relationship Monte Carlo Simulation input data Predict Arising or Defect rates Cost, Schedule or Efficiency Analysis/Earned Value Analysis Parametric Modelling Time Series Analysis <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
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Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area 4.1 Engineering</p> <p>Sector/subject areas 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	34

PC - UA 60: Apply financial controls and techniques to Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Apply financial controls and techniques to Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	4
Credit value	3
Learning outcomes	Assessment Criteria
The learner will: 1. Interpret and apply financial or accounting controls and techniques in support of improved and informed business or management decisions.	The learner can: 1.1 Apply agreed rates and margin to a commercial proposal in line with the organisation's Accounting System methodology. 1.2 Create a budget breakdown from an agreed commercial price. 1.3 Prepare a cash flow forecast for an investment or business opportunity, applying the principles of discounting or economic modelling to assess the potential return on investment. 1.4 Demonstrate appropriate control over business expenditure in relation to throughput or output of business deliverables. 1.5 Conduct cost-benefit or cost-volume-profit analysis to ensure a return on investment. 1.6 Support the analysis of business performance and the retirement of contingency to margin.
2. Understand the processes for Interpreting and applying financial or accounting controls.	2.1 Describe the accounting or costing system methodology used within the business. 2.2 Describe the key features of capital expenditure and depreciation. 2.3 Explain the difference between costing rates and pricing rates. 2.4 Describe the common financial ratios and their uses. 2.5 Describe the principles of discounting, and the techniques of NPV net present value, IRR internal rate of return, and modified payback.
3. Understand the basis for accounting processes.	3.1 Describe the basic accounting concepts: including general accepted accounting techniques within the business such as GAAP, SOX, etc.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to research, analyse and interpret observed or reported data that might be used in relation to Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities and outputs. Practitioners who are competent in this unit will be able to make judgements based on formal analysis of data available through recognised statistical procedures
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 52
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 6 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Normalisation Contexts (6 from 10) Accounting Conventions (e.g. Direct or Indirect charge nominations, Overhead Structure, Charging Rates) Physical and Performance Differences (e.g. Sizing Units: Weight, Volume, Area, Length) Scale Differences (e.g. Imperial, metric, linear transformation) Life Cycle Phase Economic Conditions of Supply (e.g. Escalation, Exchange Rates, Discounting) Cost-Quantity Adjustments (e.g. learning curve, batch size, output rate) Differences in Work Content (e.g. Recurring/Non-Recurring Costs, Missing elements of work, Additional elements of work) Level of technology used Key Groupings (e.g. Products or Services by Operating Environment, systems and functionality) Seasonality Factors (Time Series Analysis) 2. Data Transformation and Data Smoothing Techniques (3 from 5) Moving or Rolling Average Exponential Smoothing Cumulative, Cumulative Average Smoothing Logarithmic (i.e. log x), Exponential (i.e. log y) or Power (i.e. log x and log y) transformation Reciprocal transformation (i.e. inverse) 3. Descriptive Statistics used (3 from 4) Mean, Mode, Median Maximum, Minimum Variance, Standard Deviation Quartiles, Deciles, Percentiles, Confidence Levels 4. Statistical Distributions (4 from 10) Normal distribution Beta distribution F distribution Student-t distribution Triangular distribution Lognormal distribution Uniform distribution Weibull distribution Exponential distribution Other distributions 5. Purpose or Content (4 from 9) Development of Cost Estimating Relationship Development of Cost Driver Relationship Development of Schedule Estimating Relationship Development of Schedule Driver Relationship Monte Carlo Simulation input data Predict Arising or Defect rates Cost, Schedule or Efficiency Analysis/Earned Value Analysis Parametric Modelling Time Series Analysis <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>

Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <p>4. Engineering and manufacturing technologies</p> <p>5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	34

PC - UA 56: Identify and promote cost or time savings through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities during the concept and definition phases

Title	Identify and promote cost or time savings through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities during the concept and definition phases
Level	5
Credit value	8
Learning outcomes	Assessment Criteria
The learner will: 1. Participate with others, in establishing during the concept and definition phases target costs or schedules for business deliverables via the application of cost or time minimisation or cost or time optimisation	The learner can: 1.1 Contribute to the establishment and allocation of target costs or milestones and determine the anticipated quantities required for a range of business deliverables. 1.2 Research and interpret technical information or specification. 1.3 Understand and interpret the design requirements or intent of the business or project deliverables. 1.4 Identify the key functional elements of the design requirements. 1.5 Determine the key cost or schedule drivers associated with achieving the functional parameters. 1.6 Create and maintain models and relationships for cost or schedule. 1.7 Review concept and definition options, performance trade-offs, and identify cost or schedule avoidance or reduction measures. 1.8 Influence the thinking of key stakeholders in relation to cost or schedule optimisation or reduction.
2. Understand the processes for cost or time minimisation and optimisation.	2.1 Explain, giving examples the application of Target Costing or Scheduling. 2.2 Explain, using examples, the application of Value Analysis and Value Engineering. 2.3 Explain the principles of Process Improvement 2.4 Explain Root Cause Analysis techniques 2.5 Describe Engineering Design Principles and Practice. 2.6 Describe the key features of Test, Validation and Commissioning requirements. 2.7 Describe the key features of associated Technologies, Processes and Facilities 2.8 Describe Cost or schedule Modelling techniques.
3. Understand techniques required to facilitate process or cost improvement workshops.	3.1 Describe how to set up process or cost improvement workshops. 3.2 Describe how to facilitate a process or cost improvement workshop 3.3 Describe the actions necessary to capture and record workshop events and decisions.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit enables the assessment of the learner's competence to participate, with others, in the establishment and execution of target costs or schedules for business deliverables through the application of cost or time minimisation or optimisation through Project Control, Estimating, Planning, Cost Engineering or Commercial Support activities during the concept and definition phases of the life cycle.</p> <p>It is expected that practitioners would work with colleagues and peers to implement a culture of: target costing, value engineering or associated practices.</p>
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 56
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Key Stakeholder Interfaces 2. Cost / Schedule Type (4 from 7): Acquisition Design and Development Cost/Schedule. Acquisition Manufacture Cost/Schedule. Operational / Maintenance and Support Cost/Schedule. Disposal Cost/Schedule. Life Cycle, Through-Life or Whole Life Cost/Schedule. Cost/Schedule of Construction / Installation. Commissioning Cost/Schedule <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	27

PC - UA 77: Lead the functional input to the establishment of the construction or manufacturing execution plan and construction or manufacturing sequence

Title	Lead the functional input to the establishment of the construction or manufacturing execution plan and construction or manufacturing sequence
Level	5
Credit value	7
Learning outcomes	Assessment Criteria
The learner will: 1. Lead the functional input to the establishment of the construction or manufacturing execution plan and construction or manufacturing sequence	The learner can: 1.1 Lead functional input into the construction or manufacturing execution plan and construction or manufacturing sequence. 1.2 Determine with stakeholders how the construction or manufacturing sequence and its implications will be managed. 1.3 Ensure the requirements of the construction or manufacturing execution plan are built into procedures that relate to your role. 1.4 Ensure any assumptions made as part of your role in relation to the construction or manufacturing execution plan and/or sequence are clearly stated and communicated.
2. Understand the key elements of an effective construction or manufacturing execution plan and construction or manufacturing sequence.	2.1 Explain how the construction or manufacturing execution plan, construction or manufacturing sequence and related documents dictate how the work will progress. 2.2 Explain the importance of the principles of construction or logistics of manufacturing across the project life-cycle. 2.3 Identify and explain the consequences of not taking into account the local factors and risks that may influence construction or manufacturing progress. 2.4 Explain how key elements of the construction or manufacturing execution plan are incorporated into your functional activities and how this impacts stakeholders. 2.5 Explain how and why key technologies and operational processes impact on the effectiveness and/or efficiency of the construction or manufacturing execution plan. 2.6 Explain how cost or schedule modelling techniques are selected and how they support the development of the construction or manufacturing execution plan.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit has been designed to assess learner competence in: leading input into the construction or manufacturing execution plan and the construction or manufacturing sequence; establishing how the plan and sequence impact on functional activities and updating related procedures and assumptions in response to this; understanding what impacts the effectiveness/efficiency of the execution plan and; demonstrating background knowledge and understanding of relevant technologies, processes, logistics and local factors that can impact the effectiveness/efficiency of the execution plan and sequence.</p> <p>Within the context of this unit manufacturing also includes assembly.</p>
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from: ECIMECA01.
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from work-based activities on suitable engineering construction industry sites or suitable manufacturing/assembly sites/plants. Cost Engineering National Occupational Standards' must be followed.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Professional discussion is allowed to prove competence for assessment Criteria 1.1 as a learner may join a project after this stage has been completed.</p> <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area 4.1 Engineering.</p> <p>Sector/subject areas 4. Engineering and manufacturing technologies. 5. Construction, planning and the built environment.</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	July 2014
Unit guided learning hours	25

PC - UA 82: Participate in the optimisation of the production or construction method through project control, cost engineering, estimating or planning activities

Title	Participate in the optimisation of the production or construction method through project control, cost engineering, estimating or planning activities
Level	5
Credit value	12
Learning outcomes	Assessment Criteria
The learner will:	The learner can:
1. Participate with others, in establishing efficient production or construction practices and methods throughout the life cycle.	1.1 Interpret technical information or specifications and apply that information to optimise production or construction methods. 1.2 Analyse the conditions or factors which lead to production or construction inefficiencies or non-value added costs. 1.3 Contribute to the design or production method or the facility design or construction method to optimise costs or schedule 1.4 Demonstrate effective use of cost or schedule models to support design or method alterations to achieve production or construction efficiency improvements 1.5 Analyse the potential cost or schedule, for existing or developing production or construction methods. 1.6 Contribute to the review of the feasibility of proposed design solutions in relation to the production or construction capability available.
2. Effectively support the development of efficient production or construction practices.	2.1 Promulgate good practice or lessons learnt across other business deliverables at the appropriate opportunities.
3. Understand the processes for establishing efficient production or construction practices and methods.	3.1 Describe examples of Design for Manufacture or Assembly or Construction and related value improving practices. 3.2 Describe the Principles of method study and work measurement. 3.3 Describe the Principles of Process Improvement 3.4 Describe the key features of associated delivery technologies, processes and facilities. 3.5 Describe the methods for prioritising of cost improvement or schedule improvement activities. 3.6 Describe cost or schedule modelling techniques. 3.7 Describe the principles of the economic use of raw material to minimise waste and methods for minimising waste
4. Understand techniques required to facilitate process or cost improvement workshops.	4.1 Describe root cause analysis techniques. 4.2 Describe how to set up process or cost improvement workshops. 4.3 Describe how to facilitate a process or cost improvement workshop 4.4 Demonstrate an understanding of Lateral Thinking and Brainstorming techniques 4.5 Describe the actions necessary to capture and record workshop events and decisions.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit enables the assessment of the learner's competence to participate with others, in establishing efficient production or construction practices and methods throughout the life cycle, through Project Control, Cost Engineering, Estimating or Planning activities considering such factors as; time required to carry out a task, manpower, plant and equipment, space, shift patterns and energy requirements.</p> <p>It is expected the Project Control, Cost Engineering, Estimating & Planning practitioners will have a good appreciation of engineering design, production or construction, and would work with colleagues and peers to implement good practice cultures.</p>
Unit expiry date	31/10/2015
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Unit PC 58
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Cost Engineering, Estimating or Planning. Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Cost and schedule organisation method 2. Production, practices and methods for manufacturing 3. Engineering construction practices and methods for engineering construction 4. Key stakeholder interfaces <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <p>4. Engineering and manufacturing technologies</p> <p>5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/11/2010
Unit guided learning hours	40

PC - UA 47: Evaluate the Project Control, Estimating, Planning, Cost Engineering or Commercial Support information and prepare claim submissions

Title	Evaluate the Project Control, Estimating, Planning, Cost Engineering or Commercial Support information and prepare claim submissions
Level	5
Credit value	9
Learning outcomes	Assessment Criteria
The learner will: 1. Evaluate the information and prepare the claim submission.	The learner can: 1.1 Retrieve and collate information that is relevant to the claim, clarifying any uncertainties with the information originators. 1.2 Assess the information, identifying that which will support the validity of the claim and summarising and justifying it. 1.3 Develop a claim presentation strategy and gain approval for it in accordance with procedures. 1.4 Produce claim materials and submissions which are accurate and valid and in accord with the approved strategy. 1.5 Ensure that information is treated with the necessary degree of confidentiality and only made available to those who have a right to see it.
2. Validate the basis of the claim submission.	2.1 Consult with specialists where guidance and advice are required on the availability or interpretation of information. 2.2 Obtain information about similar cases, identifying key points of commonality and precedent, which can be used to support the claim.
3. Understand the processes for preparing the claim submission.	3.1 Describe the sources of information relevant to the claim. 3.2 Explain methods of collating information and differentiating between the relevant and irrelevant. 3.3 Explain how to develop and agree a claim presentation strategy. 3.4 Explain the process for obtaining and recording information from witnesses. 3.5 Explain the organisation's procedures and methods for protecting the confidentiality of information.
4. Understand the processes for validating the basis of the claim submission.	4.1 Describe the sources of specialist advice relevant to the claim. 4.2 Describe how and where to obtain information about similar cases.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to evaluate the Project Control, Estimating, Planning, Cost Engineering or Commercial Support information that is relevant to a claim and to prepare the claim submission.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 47
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 5 have to be demonstrated with:</p> <ol style="list-style-type: none"> 1. Information relevant to the claim 2. Originators 3. Specialists <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	36

PC - UA 48: Provide Project Control, Estimating, Planning, Cost Engineering or Commercial Support to the agreement of claims

Title	Provide Project Control, Estimating, Planning, Cost Engineering or Commercial Support to the agreement of claims
Level	5
Credit value	8
Learning outcomes	Assessment Criteria
The learner will: 1. Provide commercial, project control, estimating, planning or cost engineering support to reaching agreement on a claim.	The learner can: 1.1 Prepare valuations of the work and consequences that are the subject of the claim, as a basis for negotiations and agreement. 1.2 Ensure the quality of the background information in support of the valuations clarifying and identify areas of potential disagreement. 1.3 Analyse the grounds giving rise to disagreements and structure and present alternative proposals for agreement. 1.4 Question and test the consistency, validity and resilience of the arguments and data put forward by any opposing parties. 1.5 Suggest realistic options and processes for resolving differences when initial proposals are not accepted. 1.6 Conduct negotiations in a manner that maintains goodwill and trust' 1.7 Interpret and use baselines and incremental progress records with underpinning data as an aid to effective dispute resolution.
2. Maintain claim records and confidentiality.	2.1 Ensure accurate and complete records of negotiations, additional information provided and all agreements concluded are maintained. 2.2 Ensure that information is treated with the necessary degree of confidentiality and only made available to those who have a right to see it.
3. Understand the processes for providing functional support to agreement of claims.	3.1 Explain the working methods for analysing and preparing valuations. 3.2 Explain methods for preparing and submitting valuations and accounts. 3.3 Explain the working methods for analysing opposing claims and structuring reasoned responses. 3.4 Explain how and to whom recommendations for acceptance of settlement offers are made. 3.5 Explain how and to whom recommendations of responses to reactions and proposals from opposite parties are made.
4. Understand the processes underpinning claim negotiation.	4.1 Describe effective negotiation practices. 4.2 Explain the process for claim and negotiation record keeping.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to provide commercial, project control, estimating, planning or cost engineering support to reaching agreement on a claim between the parties concerned.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 48
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competence at Level 5 has to be demonstrated using:</p> <ol style="list-style-type: none"> 1. Valuations of the work 2. Claims 3. Analyses 4. Options and processes <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area</p> <p>4.1 Engineering</p> <p>Sector/subject areas</p> <ol style="list-style-type: none"> 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	27

PC - UA 54: Develop and calibrate learning curve models for recurring tasks for Project Control, Estimating, Planning, Cost Engineering or Commercial Support

Title	Develop and calibrate learning curve models for recurring tasks for Project Control, Estimating, Planning, Cost Engineering or Commercial Support
Level	6
Credit value	9
Learning outcomes	Assessment Criteria
The learner will: 1. Develop and calibrate learning curves	The learner can: 1.1 Access sources of information and seek advice when necessary on interpretation of contextual information. 1.2 Verify the rate of learning achieved on a given or similar task by an appropriate numerical or algorithmic technique. 1.3 Analyse changes to learning curve drivers that cause changes to a steady rate of learning observed or assumed. 1.4 Create a learning curve model to calculate future costs in relation to predicted cost driver values. 1.5 Perform sensitivity analysis on the learning curve parameters and cost drivers to quantify the range of uncertainty in the estimated future costs. 1.6 Document the basis of the learning curve model and its parameters in relation to any learning curve drivers, as part of a formal basis of estimate.
2. Understand learning curve theory.	2.1 Explain alternative learning curve or cost improvement curve models and their mathematical formulae. 2.2 Explain awareness of the potential learning curve cost drivers and parameters and how to apply them. 2.3 Explain means of calibrating learning curve rates based on current or previous performance on like or similar products, processes or services. 2.4 Explain methods for assessing and applying loss of learning and the rationale and causes of it. 2.5 Explain use of learning curve breakpoints. 2.6 Explain methods for modelling cost impact of changes in work content. 2.7 Explain the graphical depiction of learning curves in linear and logarithmic space.
3. Develop and calibrate learning curves	3.1 Access sources of information and seek advice when necessary on interpretation of contextual information. 3.2 Verify the rate of learning achieved on a given or similar task by an appropriate numerical or algorithmic technique. 3.3 Analyse changes to learning curve drivers that cause changes to a steady rate of learning observed or assumed. 3.4 Create a learning curve model to calculate future costs in relation to predicted cost driver values. 3.5 Perform sensitivity analysis on the learning curve parameters and cost drivers to quantify the range of uncertainty in the estimated future costs. 3.6 Document the basis of the learning curve model and its parameters in relation to any learning curve drivers, as part of a formal basis of estimate.
4. Understand learning curve theory.	4.1 Explain alternative learning curve or cost improvement curve models and their mathematical formulae. 4.2 Explain awareness of the potential learning curve cost drivers and parameters and how to apply them. 4.3 Explain means of calibrating learning curve rates based on current or previous performance on like or similar products, processes or services. 4.4 Explain methods for assessing and applying loss of learning and the rationale and causes of it. 4.5 Explain use of learning curve breakpoints. 4.6 Explain methods for modelling cost impact of changes in work content. 4.7 Explain the graphical depiction of learning curves in linear and logarithmic space.

Additional information about this unit	
Unit purpose and aim(s)	This unit enables the assessment of the learner's competence to analyse, apply and interpret learning curve theory as a predictive technique for future costs for Project Control, Estimating, Planning, Cost Engineering or Commercial Support.
Unit expiry date	31/01/2016
Details of the relationship between the unit and relevant National Occupational Standards or other professional standards or curricula (if appropriate)	Derived from ECITB NOS Unit PC 54
Assessment requirements or guidance specified by a sector regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Estimating, Planning, Cost Engineering or Commercial Support.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit. Competence at Level 6 has to be demonstrated using:</p> <ol style="list-style-type: none"> 1. Level or Elements to which learning is applied (3 from 6) <ul style="list-style-type: none"> ▪ Process learning ▪ Product learning ▪ Organizational (cross-product) learning ▪ Batch learning ▪ Labour costs ▪ Total costs 2. Cost Drivers (6 from 9) <ul style="list-style-type: none"> ▪ Output rate ▪ Design Engineering support to manufacture ▪ Production Engineering support (methods and tools) ▪ Operator motivation ▪ Logistical support ▪ Supervision ▪ Quality Management ▪ Law of diminishing returns / End-of-Line Effects ▪ Continuity/discontinuity of production 3. Model Types (2 from 9) <ul style="list-style-type: none"> ▪ Crawford (unit) ▪ Wright (cumulative average) ▪ De Jong (fixed element) ▪ Stanford-B (prior experience) ▪ S-Curve (fixed element + prior experience) ▪ Jones Segmentation method (cost driver modeling) ▪ Cumulative value methods ▪ Anderlohr method (for assessing lost learning) ▪ Other models <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB

Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area 4.1 Engineering</p> <p>Sector/subject areas 4. Engineering and manufacturing technologies 5. Construction, planning and the built environment</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared
Unit available from	01/02/2011
Unit guided learning hours	36

PC - UA 75: Contribute to commercial activities through project control, cost engineering, estimating or planning activities

Title	Contribute to commercial activities through project control, cost engineering, estimating or planning activities
Level	4
Credit value	8
Learning outcomes	Assessment Criteria
The learner will: 1. Contribute to the selection of suppliers and the development of bids and tenders.	The learner can: 1.1 Contribute to the evaluation criteria for suppliers and bids by providing relevant criteria information against which they should be assessed. 1.2 Contribute to the selection of suppliers who are able to meet the contract or business specifications. 1.3 Contribute to tender documents or requests for quotation that meet the operational requirements, technical requirements, procurement strategies, and applicable legislative and regulatory requirements.
2. Evaluate submissions from potential suppliers and input to recommendations on bids and tenders.	2.1 Contribute to the evaluation of potential suppliers and tenders against agreed selection criteria. 2.2 Respond to queries from potential suppliers providing them with additional information that they need. 2.3 Maintain records of your contribution to supplier selection, bid creation and/or tender evaluation and the reasons for your input.
3. Understand the processes required to: identify suppliers and; how to create the evaluation framework for assessing potential suppliers and bids.	3.1 Describe the specific criteria for selecting suppliers that are suitable for the work required. 3.2 Describe the roles, responsibilities, and authorities of the parties involved in creating the evaluation framework process. 3.3 Describe why records should be kept of the process for operational and for legal protection reasons. 3.4 Describe the different contract types, commercial terms and conditions relevant to your business.
4. Understand the processes required to evaluate supplier and bid submissions and making recommendations on bids or tenders.	4.1 Describe the selection process for comparing and evaluating bids including the roles of those involved. 4.2 Describe the process for confirming variations and other adjustments made to a tender or bid as a result of queries resolved during the evaluation process. 4.3 Describe the means of referring and resolving queries concerning the content of bids or tenders. 4.4 Describe the ethical and commercial confidentiality considerations in the selection process.

Additional information about this unit	
Unit purpose and aim(s)	<p>This unit has been designed to assess the learner's competence to provide commercial support to the operation through Project Control, Cost Engineering Estimating or Planning activities by contributing to the: the evaluation of suppliers, bids or tenders and; the development of bids, or tenders;</p> <p>The competence contained within this Unit is concerned with both inputting to the evaluation of suppliers and inputting to the development of bids.</p> <p>This competence may be practiced either as Client organisation selecting a contractor or, a Contracting organisation: selecting a supplier or sub-contractor or; inputting to the response to a bid.</p>
Unit expiry date	June 2020
Details of relationship between the unit and the relevant national occupational standards or other professional standards of curricula (if appropriate)	Derived from ECITB NOS Units - ECIPC39 and ECIPC40.
Assessment requirements or guidance specified by a sector or regulatory body (if appropriate)	<p>This unit must be assessed in the occupational area of Project Control, Cost Engineering Estimating or Planning.</p> <p>Assessment of this unit will be by occupationally competent assessors approved by an awarding body. They will gather sufficient evidence of competence from worked-based activities.</p> <p>There are no mandatory workplace observations for this unit.</p> <p>Competences at Level 4 should be demonstrated with evidence from or related to:</p> <ol style="list-style-type: none"> 1. Stakeholders 2. Potential suppliers and/or tenderers. 3. Criteria set 4. Tender documents/ bid documents 5. Different contract types and commercial terms in use within the business in which the learner works and which are directly relevant to the learner's role within the business <p>Evidence can be provided for Learner outcomes 1 and 3 in relation to bid development or response to bids.</p> <p>The requirements found in the latest version of the 'ECITB Assessment Strategy for Craft, Technician, Technical, Expediting and Project Control Suite Vocational Qualifications' must be followed.</p>
Support for the unit from a SSC or other appropriate body (if required)	ECITB
Location of the unit within the subject/sector classification system	<p>Second-tier sector/subject area 4.1 Engineering.</p> <p>Sector/subject areas 4. Engineering and manufacturing technologies. 5. Construction, planning and the built environment.</p>
Name of the organisation submitting the unit	ECITB
Availability for use	Shared

LEVEL 5 DIPLOMA IN COST ENGINEERING PRACTICE

Unit available from	July 2014
Unit guided learning hours	25



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