Advanced Diploma in Quantity Surveying

Syllabus

18 September 2018

Contents

1 Programme Structure and Rules of Combination

1.1 Rationale

Advanced Certificate in Quantity Surveying
The Level 5 Advanced Certificate in Quantity Surveying is designed for students who are interested to enter into the construction sector or currently progressing into a quantity surveying or commercial management role. This qualification develops the learner's knowledge and skills to design and develop projects, liaise with stakeholders and oversee small to medium construction projects safely and efficiently.

Advanced Diploma in Quantity Surveying
The Level 5 Advanced Diploma in Quantity Surveying is designed for students who are interested to enter into the construction sector or currently progressing into a quantity surveying or commercial management role. The qualification develops the learner's knowledge and skills to design and develop projects, liaise with stakeholders and oversee large or complex construction projects safely and efficiently. The Level 5 Advanced Diploma in Quantity Surveying is also designed for construction professionals who wish to study for a Bachelor's Degree (BSc or BEng) in a 2-year top-up course at one of our partner universities.

1.2 Progression to other qualifications

The programme provides the underpinning knowledge and understanding for the Advanced Diploma in Quantity Surveying. It also enables students to study towards a university degree, as once they achieve the Level 5 Advanced Diploma they can progress to our partner universities and study for a Bachelor's Degree.

1.3 Programme Rules of Combination

The programme comprises two qualifications; the Level 5 Advanced Certificate in Quantity Surveying and the Level 5 Advanced Diploma in Quantity Surveying.

The course is of two years' duration. Each year long programme contains 6 core units. Students' performance will be assessed by an open book online exam (assignments).

Year 1:

- Fundamentals of Engineering Drawings
- Construction and Civil Engineering Technology
- Managing Sustainable Construction
- Construction Project Scheduling
- Methods of Measuring and Estimating
- Tendering and Procurement Process

Year 2:

- Construction Contract Law
- Cost Planning and Control
- Pre-Contract Administration
- Post-Contract Administration
- Value Engineering
- Construction Claims and Dispute Resolution

To achieve the Level 5 Advanced Certificate, candidates are required to undertake:

- All 6 units from Year 1

To achieve the Level 5 Advanced Diploma, candidates are required to undertake:

- All 12 units from Year 1 & Year 2 – 6 units from Year 1 and 6 units from Year 2

1.4 Entry Requirements

- Minimum 18 years old **and** one of the following:
- Minimum Grade C in GCSE in Mathematics and English (or Equivalent) **or**
- Level 3 qualification in Engineering/Science including Mathematics **or**
- If you have relevant experience, please contact us on admission@theccm.co.uk with your updated CV.

1.5 Unit and Assessment Grades

The tutor will award a grade to the achievement of each unit (fail, pass, merit or distinction). Unit grades apply to overall performance in units including assignments, practical exercises and course work.

Indicative marking descriptors for differentiating between levels of achievement when marking assignments are provided below (Section 1.8).

The overall grade for a qualification is calculated using a points system. Each unit grade attracts points as follows:

Fail	0 points
Pass	1 point
Merit	2 points
Distinction	3 points
Unit Exemption	1 point

1.6 Assessment

The assessment process is set by the College of Contract Management, which defines the requirements learners are expected to meet to demonstrate that a learning outcome has been achieved. All learning outcomes must be achieved in order to gain attainment of credit for that unit. Tutor-led assessment should be carried out throughout the course.

All units are assessed by internally-set assignment briefs by the partner universities and chartered institutions. Internally-set assignment briefs must be approved prior to issue to candidates.

The assessment criteria are based on 3 areas:

The assessment criteria are based on 3 areas:

1. **Task achievement** – This is a measure of how well the candidate answers the task question/questions and the identification of the important aspects of the task.

2. **Technical Content** – This is a measure of how well the candidate identifies, describes and evaluates the technical aspects of the task.

3. **Presentation** – This is a measure of how well the candidate presents the assignment and includes the quality of the structure and paragraphing, the quality and relevance of visual or graphical content and the referencing used for quoted sources.

1.7 Assignment Policies

1. All submission of assignments must include:

   a) a copy of the full brief given by the Examinations Officer
   b) all source material must be cited in the text and a full bibliography of source material (including author, title, publisher, edition and page) listed at the end of the submission

2. All submissions must be submitted into our system as instructed by the Examinations Officer.

3. All submissions under the student's name must only be the work of that student. All information sources must be acknowledged. There is the **possibility of failing the module if the contents of the assignment are plagiarised** as set out in the rules and regulations of the institution.

4. All submissions should be in pdf format and students **must** keep a copy of all submitted work for reference purposes. Receipt will be acknowledged by the College once the work is completed.

5. Whenever a candidate submits work after the approved deadline without an authorised extension, a "Pending" grade will be awarded. Assessor may comment on the quality of the work for learning purposes.

6. Requests for extensions of submission deadlines must be made in writing **prior** to the submission deadline to the Assessor and must be supported by documentary evidence.

1.8 Level 5 Advanced Certificate and Level 5 Advanced Diploma in Quantity Surveying Indicative Marking Descriptors

Note: Please note that the bands below describe indicative characteristics only. An overall holistic approach is required when assessing a candidate's work and assigning a grade. Please read these grading bands in conjunction with the College of Contract Management Assignment Policy.

Grade	Task Achievement The Relevance of the Response	Inclusion of Relevant Technical Knowledge in Content	Presentation/Coherence
Distinction			
70% +	The work demonstrates a comprehensive understanding of the task. All relevant information is included. The main issues are effectively identified and analysed. There is evaluation and some analysis of solutions to issues relevant to the task. The response shows control of content within the word count.	The work demonstrates a strong understanding of a wide range of technical issues relevant to the task. There is analysis of the advantages/disadvantages of possible choices, risks and potential outcomes.	The work is appropriately structured and the argument is developed coherently. There is a recognised form of source referencing which supports the points in the task. Paragraphing and titling are used effectively to assist the reader. The use of visual/graphical information is clear and effective in assisting the reader. The graphical information is relevant to the task and is accurate.
Merit			
60-69%	The work demonstrates a clear understanding of the main issues relevant to the task. The issues are explained effectively and potential solutions identified. There is some attempt to analyse the merits of the solutions to the task. The task is broadly achieved within the word count, if relevant to assignment.	The work demonstrates an understanding of the key technical issues of the task. There is clear description of relevant technical aspects with some attempt to evaluate the merits of these as appropriate to the task.	Demonstrates an awareness of presentation and an attempt to present the information with clarity and coherence. There is referencing of sources and use of paragraphing and titling to assist the reader. There is use of clear graphical information to support the assignment which has broad relevance to the task. There may be some limited inaccuracies/omissions in these.
Pass			
40-59%	The work demonstrates an understanding of the task. The main points are identified and the task is achieved. There is no attempt to evaluate or analyse the solutions. There may be some inaccuracies, omissions and irrelevant content. There may be lack of control in relation to the word count.	The work demonstrates an understanding of the main technical issues which are identified. This may be limited to description with little evidence of evaluation. There may be some omissions and inaccuracies in the detail. There may be some irrelevant details.	There is an attempt to structure the information. There is evidence of paragraphing and titling which is not always appropriate. Some basic graphical information may be included which is of some assistance to the reader. There may be some omissions or inaccuracies. The work is generally coherent but there may be occasional lapses in coherence and structure.
Fail			
0-39%	The work shows a poor understanding of the task. Frequent inaccuracies. Failure to identify important aspects of the task. Much of the information is irrelevant to the task. There may be evidence of copy and paste from external sources. The response may be limited to lists of words with no attempt to explain the relevance/merits of these to the task. The assignment falls short of the word count.	The work demonstrates a lack of understanding of the technical aspects. There are omissions of important technical information. Errors are evident in the technical content. There is no attempt to explain the relevance of the technical content to the task.	Lacks structure and may be limited to lists of points which are not developed. Disorganised in structure causing difficulty for the reader to understand the points. The response is Illegible or incoherent in places. No referencing of external sources. The graphical illustrations are of poor quality or absent. They may be irrelevant. There may be errors and a lack of clarity causing difficulty for the reader to understand.

1.9 Calculating Overall Qualification Grade

To calculate the overall qualification grade, the individual module grades should be added together and compared to the table below:

1.9.1 Level 5 Advanced Certificate in Quantity Surveying

Candidates must pass 6 units of the programme, which must include the 3 mandatory units in Year 1, as defined above and may include any of the remaining 9 units from Year 1 or 2.

Total Points for all 6 Units	Overall Grade
18	**Distinction**
17	
16	
15	
14	
13	**Merit**
12	
11	
10	
9	**Pass**
8	
7	
6	
5 or fewer	**Fail**
Candidates must achieve at least a pass in (or hold exemption from) all 6 units to be awarded the Advanced Certificate.	

1.9.2 Level 5 Advanced Diploma in Quantity Surveying – entire qualification

Candidates must pass all 12 units of the programme

Total Points for all 12 Units	Overall Grade
36	**Distinction**
35	
34	
33	
32	
31	
30	
29	
28	**Merit**
27	
26	
25	
24	
23	
22	
21	
20	

19	**Pass**
18	
17	
16	
15	
14	
13	
12	
11 or fewer	**Fail**
Candidates must achieve at least a pass in (or hold exemption from) all 12 units to be awarded the Advanced Diploma.	

Subject	Fundamental of Engineering Drawings
Subject Code	QS401

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: **The learner will:**	**Assessment criteria:** **The Learner can:**
1. Have a sound understanding in engineering language and fundamental drawings and design principle [K, U].	1.1 Understand the types of sectional views, Cutting plane or sectional plane. 1.2 Understand the layout of drawing sheet, margin, border lines, title block, list of parts, scales, uses of scale, sizes of scale, dimensioning.
2. Understand various civil engineering design options and able to apply dimensions on engineering drawings [K, S].	2.1 Understand the purpose of construction drawing, drawing lines and shapes, views and dimensions. 2.2 Understand the representation of materials, doors, windows, and first and third angle projection. 2.3 understand construction details in relation to functional elements of the design
3. Be able to apply the features and functions of typical CAD systems for producing CAD drawings [K, S].	3.1 Understand the plans, elevations, structural elements, elevations, component drawings and engineering drawings. 3.2 Able to read symbols indicating materials and drawings for trade information. 3.3 Able to prepare detailed structural and service drawings. 3.4 Able to create 2D and 3D drawings using Auto CAD.
4. Understanding BIM Tools and of the technical, process and collaborative aspects of the use of BIM on projects [K, S].	4.1 Introduction of BIM Tools. 4.2 Understand Quantification using the BIM Process. 4.3 Understand BIM in costing applications. 4.4 Able to prepare a BIM execution plan and implement of a BIM management process. 4.5 Able to maintain an information model. 4.6 Able to implement contractual aspects of BIM such as separate protocol.
Additional information about the unit	
Units aim(s)	

Recommended Reading

1. Keith Styles and Andrew Bichard, *Working Drawings Handbook*, 4th edition
2. Mark W. Huth, *Understanding Construction Drawings*, 5th edition
3. W. Otie Kilmer, Rosemary Kilmer, *Construction Drawings and Details for Interiors*: Basic Skills, 2003
4. A Technical Review of BIM Based Cost Estimating in UK Quantity Surveying Practice, Standards and Tools.' http://www.itcon.org

Unit Title	**Construction and Civil Engineering Technology**
Unit Code	QS402

Summary

Status	core
Learning Hours	200GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: The learner will:	Assessment criteria: The Learner can:
1. Able to manage and mitigate health, safety and environmental (HSE) risks [K, S]	1.1 Risk assessment. 1.2 Management plan for safe working practices. 1.3 Manage and mitigate HSE risks at pre-and post-contract stages. 1.4 Quantitative and qualitative risk techniques. 1.5 Assess and manage actual or anticipated health, safety and environmental risks. 1.6 Evaluate appropriate environmental assessment methodologies.
2. Understanding health, safety and environmental law and obligations in construction and the application of current Construction Design and Management (CDM) regulations [K, S]	2.1 Demonstrate knowledge and understanding of the principles and responsibilities imposed by law, codes of practice and other regulations 2.2 Appropriate construction projects 2.3 HSE hazards in construction. 2.4 Emergency management procedures in accident preventions and investigations. 2.5 Identify and apply the legislation, standards and best practice to prevent accidents. 2.6 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). 2.7 Evaluate health and safety management systems. 2.8 Obligations of all parties involved in construction according to the HSE law.
3. Understanding foundations and substructure and able to design and operate with suitable technology [K, S]	3.1 Types of foundation (e.g. reinforced strip, piles, raft foundations). 3.2 Basement construction. 3.3 Excavations and ground works. 3.4 Ground stabilization including grouting, consolidation, compaction, timbering and contaminated soil.
4. Understanding the superstructure in building construction and able to design and operate with suitable technology in buildings and civil engineering construction [K, S]	4.1 Type of frames in multi storey buildings and civil engineering construction. 4.2 Sustainable technologies in multi storey buildings and civil engineering construction. 4.3 Exterior envelope of multi storey buildings including precast concrete, rain screen, cladding masonry and curtain walling. 4.4 Building and civil engineering materials, and selection. 4.5 Building performance service life, installation and building materials performance.

5. Understanding the technology in design process of the built environment [K, U]	5.1 Stages of design from inception to completion. 5.2 Architectural innovations. 5.3 Environmental legislations and environmental sustainability. 5.4 CDM Regulations. 5.5 Planning and Building Regulations. 5.6 Social, political, cultural and other impacts in construction design. 5.7 Various design process for different types of buildings. 5.8 Disability requirements. 5.9 Operational and maintenance processes post contract.
6. Able to select and operate building services and systems in a multi stories building [K, S]	6.1 Heating and ventilation. 6.2 Fire safety and building security Requirements. 6.3 Energy efficient buildings and select suitable technology in installation of services such power, gas, telecommunications, water, drainage, wastewater, etc.
Additional information about the unit	
Units aim(s)	

Text Book

1. Mike Riley & Alison Cotgrave, *Construction Technology 2 – Industrial and Commercial Building*, 3rd Edition

Recommended Reading

1. Hughes, P. (2015) *Introduction to Health and Safety in Construction*, 5th edition; Abingdon: Taylor and Francis

Unit Title	Managing Sustainable Construction
Unit Code	QS403

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: The learner will:	Assessment criteria: The Learner can:
1. Understand the impact of environmental legislation and standards on construction works [U].	1.1 Explain how environmental legislation affects construction works. 1.2 Evaluate the methods for examining function against cost, making reference to industry reports and initiatives. 1.3 Evaluate the use of environmental assessment standards on construction works.
2. Understand how the selection and use of materials and products can contribute to sustainable construction [U, K].	2.1 Understand the development and basis for the principle of sustainability 2.2 Evaluate the use of sustainable materials and products for a given construction project. 2.3 Evaluate the lifecycle costs of materials and products for a given project. 2.4 Produce a sustainable procurement strategy for a given construction works. 2.5 Explain how the process of installing building services may affect the energy performance of the completed project. 2.6 Explain to the end user how to sustain the optimum performance of a construction project. 2.7 Demonstrate knowledge and understanding of why and how sustainability seeks to balance economic, environmental and social objectives on construction projects
3. Understand how to manage the installation of low carbon technologies for construction projects, following industry best practice [K, S].	3.1 Explain the operation of low carbon technology installations following manufacturer's instructions. 3.2 Explain the responsibilities of the site manager for planning and scheduling the installation of low carbon technologies. 3.3 Explain the factors to be considered when retrofitting low carbon technologies to existing construction projects.
4. Be able to manage construction waste, including water, following industry best practice [K, S].	4.1 Produce a waste management plan, including water, for a given project, following industry best practice. 4.2 Evaluate progress against the waste management plan targets throughout the construction phase of a given project.

5. Understand problems from an environmental perspective and develop a sustainable solution [U, K].	5.1 Environmental impact and life cycle assessment 5.2 Building and sustainable development. 5.3 Identify and apply current technologies and anticipate future and legislative requirements.
Additional information about the unit	
Units aim(s)	

Recommended Reading

1. DVD ROM (2008) *A Guide to Sustainability in the Construction Industry*; Kings Lynn: Construction Skills

2. Burton, S. (2012) *Handbook of Sustainable Refurbishment – Housing*; Abingdon: Routledge

3. BRE (2002) *MaSC Managing Sustainable Construction: Accelerated Learning*; CRC Press

Unit Title	Construction Project Scheduling
Unit Code	QS404

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

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- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

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Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

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S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: **The learner will:**	**Assessment criteria:** **The Learner can:**
1. Understand the types of documents that are used for project planning [U].	1.1 Evaluate the types of documents used for project planning to ascertain their importance to the planning work. 1.2 Explain the processes for dealing with inaccurate and missing information.
2. Be able to produce a method statement for the works [K, S].	2.1 Produce a method statement with reference to drawings, specifications and other documents relating to proposed construction.
3. Be able to produce a coherent and complete programme for the works [K, S].	3.1 Produce a programme for the works. 3.2 Demonstrate knowledge and understanding of the principles of design and construction 3.3 Understand the process of constructing the works
4. Understand how site inspection findings influence the execution of construction works [U, K]	4.1 Explain how site inspection findings affect the feasibility of the proposed plans.
5. Be able to determine resource requirements for construction works [S].	5.1 Assess the quantities and qualities of materials needed for the work. 5.2 Assess the plant and equipment needed for the work. 5.3 Assess the labour needed for the work, including sub-contractors.
6. Be able to produce projects in Primavera P6 [K, S].	6.1 Overview and navigation 6.2 Creating new projects; 6.3 Importing and exporting projects; 6.4 Creating WBS (Work Breakdown Structure); 6.5 Adding and managing activities to the WBS, creating relationships, CPM (Critical Path Method), total float, assigning constraints and scheduling; 6.6 Defining resources and roles, analysing resource performance, and adding resources and costs to the schedule;
Additional information about the unit	
Units aim(s)	

Recommended Reading

1. Baldwin, A. and Bordoli, D. (2014) *A Handbook for Project Planning and Scheduling*; Chichester: Wiley Blackwell
2. Cooke, B and Williams, P. (2009) *Construction Planning, Programming and Control*, 3rd edition; Oxford: Blackwell
3. Paul E Harris, Project Planning and Scheduling using Primavera P6, 2008
4. Oracle Primavera Project Management P6, Reference Manual, version 7.0
5. Jerry Brown Governor, Project Scheduling with Primavera P6 Training Manual, December 2011, Ver 1

Unit Title	Method of Measurement and Estimating
Unit Code	QS405

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

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- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

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Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: **The learner will:**	**Assessment criteria:** **The Learner can:**
1. Understand the estimation processes for a construction tender [K, U].	1.1 Organisation of the estimating function. 1.2 Procurement path. 1.3 Forms of contract. 1.4 Tender documentation. 1.5 Estimating methods.
2. Understand the importance of measurement in construction and able to use the method of measurement for the estimating process [K, S].	2.1 Quantity surveying techniques and the quantification of construction works. 2.2 The Civil Engineering Standard Method of Measurement (CESMM4). 2.3 The Method of Measurement for Highway Works (MMHW). 2.4 RICS New Rules of Measurement (NRM) 2.5 Specifications.
3. Able to produce an estimate for a construction tender and for a given construction project in a standard industry format [K, S].	3.1 Carry out the costing of construction works by resource Costs – Labour, Plant & Material. 3.2 Prime costs, provisional sums and day works. 3.3 Preliminaries. 3.4 Building up rates from first principles. 3.5 Unit rate pricing. 3.6 Risks, opportunities and fluctuations. 3.7 Completing the estimate and final tender Review. 3.8 Cashflow forecasts
4. Understand the estimation processes for a construction tender [K, S].	4.1 Purpose of key contract documents in producing an estimate for a construction tender. 4.2 Use of the standard method of measurement used for the tendering process. 4.3 Produce an estimate for a given construction project in a standard industry format.
Additional information about the unit	
Units aim(s)	

Text Book

1. Martin Brook's *Estimating and Tendering for Construction* Work by Elsevier Butterworth-Heinemann 3rd Edition.

Recommended Reading

1. Thomas Telford Publishing for permission to quote for the ICE Conditions of Contract 7th Edition.
2. Measurement using the New Rules of Measurement by Sean D C Ostrowski.
3. Managing with the MMHW by Hamish Mitchell.
4. Building Measurement by A D Packer which covers SMM7, superseded by NRM2 but of course you are still likely to find it in contracts in progress.

Unit Title	**Tendering and Procurement Process**
Unit Code	QS406

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

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- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: The learner will:	Assessment criteria: The Learner can:
1. Understand the procurement of construction materials and plant for the execution of the works [U, K]	1.1 Explain the organisational procurement process for construction materials and plant. 1.2 Describe procurement requirements for public and private sector projects, both nationally and internationally. 1.3 Explain the relationship between effective procurement and cost control. 1.4 Explain codes of practice and procedures commonly used.
2. Understand how construction work is procured [U, K].	2.1 Understand how client needs influence choice of procurement method. 2.2 Discuss how construction work is procured, evaluating the merits of alternative routes. (TN – traditional, design and build, management contracting, construction management, term contracting, partnering, PFI; single-, two-stage, negotiated tenders; sub-contracting, appointing consultants). 2.3 Understand risk allocation and contractual relationship created through different procurement routes. 2.4 Discuss how tendering processes are used to establish contract price.
3 Understand tender documentation and the bid process in construction projects [K, S].	3.1 Explain the tendering process and tender Action. 3.2 Explain the competitive bidding under risk and budgetary control. 3.3 Describe the sequence of successful tender Submissions.
4 Able to evaluate tenders to award successful contractor [K, S].	4.1 Explain the evaluation and comparison of bids process including contractors' queries, late tenders, errors, omissions and adjustment to tenders. 4.2 Explain the negotiation processes such as single and two stage tendering, involved in procurement, the use of codes of practice and e-tendering. 4.3 Explain the preparation of tender evaluation report and award.
Additional information about the unit	
Units aim(s)	

Text Book

1. Ramus, Jack and Birchall, *Simon, Contract Practice for Surveyors*, 3rd edition

Recommended Reading

1. Kwakye A. A, *Understanding Tendering and Estimating*, Ashgate Publishing Limited
2. Hughes, W., Hillebrandt, P., Greenwood, D. and Kwawu, W.(2007) Procurement in the Construction Industry, London: Spon
3. *The Aqua Group Guide to Procurement, Tendering and Contract Administration*, 2nd edition Mark Hackett and Gary Statham, Wiley-Blackwell

Subject	Construction Contract Law
Subject Code	QS501

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits	20
Period of Study	2 months

Summary of Learning Outcomes

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- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: **The learner will:**	**Assessment criteria:** **The Learner can:**
1. Become familiar with construction contracts and responsibilities of contracting parties [K, U].	1.1 Importance of a written contract, clarity and certainty, and procedures. 1.2 Terms of a construction contract, risk allocations and approaches. 1.3 Role of participants.
2. Understand the principles of contract law and their application [K, U].	2.1 Understand basic contract law and legislation 2.2 Nature of contract and types of contracts. 2.3 Executed and executory contracts, courts system in England and Wales, valid contract, tort, and letter of intent. 2.4 Produce contract documentation.
3. Demonstrate a basic knowledge of nature and significance of law and legislation as applied to the construction process [K, U].	3.1 JCT, NEC, FIDIC and other forms of contracts. 3.2 Bespoke contracts. 3.3 Classification of express terms, conditions and warranties and innominate terms. 3.4 Modifying clauses in standard forms of contract and sub-contract. 3.5 Implied terms and acceptance. 3.6 Contract conditions and allocation of risks.
4. Knowledge in employment legislation, health and safety law and its applicability to construction projects [K, S].	4.1 Employer's liability for injuries to his employees, health and safety regulations, and employment legislation. 4.2 Regulations, rights and duties of the parties to the contract.
5. Be able to apply appropriate principles of construction management, law and ethics. [K, S]	5.1 Understand general contractual provisions such as insurances, retention, taxation and bonds 5.2 Damages for late completion. 5.3 Delay on programme or in progress. 5.4 Purposes of extension provisions and apportionment of extensions.
Additional information about the unit	
Units aim(s)	

Recommended Reading

- William Godwin, *International Construction Contracts A Handbook*, A John Wiley & Sons, Ltd., Publication 2013
- John Uff, (2005) *Construction Law*, Sweet & Maxwell, 9th edition

Unit Title	Cost Planning and Control
Unit Code	QS502

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

K: Knowledge (a more detailed level of understanding of the activity)

S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: The learner will:	Assessment criteria: The Learner can:
1. Understand the basics of company accounts, including turnover and profit/loss [U].	1.1 The Contractor's business needs, creation of clients, profit making, provision of good product, level of turnover and business finance.
2. Understand internal accounting controls in construction companies [K, S].	2.1 Managing costs and profits, managing cash flows, construction accounting systems, general ledger and method of accounting. 2.2 Assets and liabilities.
3. Knowledge of the development of a cost plan [K, S].	3.1 Understand method of estimating for cost planning. 3.2 Sources of cost information. 3.3 Adjustments to cost data for factors including location, specification, time and market forces. 3.4 Standard forms of cost planning and cost control. 3.5 Pre-contract cost planning process and cost control. 3.6 Efficiency of labour and plant and increasing productivity. 3.7 Materials and cost of transport. 3.8 Calculation of unit rates. 3.9 Produce cost plans.
4. Understand cost control in building design and construction [U, K]	4.1 The importance of control over expenditure, traditional costing procedure; cost control during inception, feasibility and outline proposal. 4.2 Cost control during scheme design and during detail design. 4.3 Initial cost appraisal for design and construction. 4.4 Understand factors affecting design economics over the life of a building 4.5 Applying value engineering processes 4.6 Cost monitoring and overruns.
5. Knowledge in cost of construction firm, Prime costs and provisional sums [K, S].	5.1 Short-run costs, fixed costs and variable costs. 5.2 Provisional sums for defined and undefined works and works by statutory authorities.

6. Skills in developing reports for construction cost control and planning and cost analyses [K, S].	6.1 Principles of cost control, implementation of design cost control, principal factors in cost planning, cost planning techniques and cost modelling. 6.2 Tender cost analysis. 6.3 Cost analyses, cost indices, cost limits and post-contract cost control. 6.4 Differences between cost control and cost management.
Additional information about the unit	
Units aim(s)	

Recommended Reading

1. Wiley-Blackwell (2013) *Ferry and Brandon's Cost Planning of Buildings*
2. Wiley-Blackwell (1997) Cost Control in Building Design by Roger Flanagan and Brian Tate
3. Seely I,H. (1989) *Advanced Building Measurement*. Macmillan
4. Ashworth A. (2008) *Pre-Contract Studies: Development Economics, Tendering, and Estimating*, 3rd edition, Oxford, Blackwell.

Unit Title	Pre-Contract Administration
Unit Code	QS503

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

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S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: **The learner will:**	**Assessment criteria:** **The Learner can:**
1. Be able to examine and report on tenders [K, S].	1.1 Arithmetical and pricing errors, tenders based on bills of approximate quantities, drawings and specifications and 'ad hoc' schedule of rates. 1.2 Reporting on tenders and dealing with errors.
2. Be able to perform tender documentation and bid process [K, S].	2.1 Pre-tender activities. 2.2 Inviting and processing tenders. 2.3 Produce and compile tender documentation (TN – letter of invitation, forms of tender, health and safety documentation, design documentation and contractual details). 2.4 Produce pricing documents. 2.5 Review on contract documents and preparing of enquiry documents. 2.6 Tender evaluation and the selection of the successful contractor.
3. Demonstrate a basic knowledge and understanding in pre-contract documentation [U, K].	3.1 Types of contract documents 3.2 Manage information and communications systems.
4. Understand the impact of legislation on construction works [U, K]	4.1 Influence of planning regulations on construction activities. 4.2 Requirements of building regulations for construction works. 4.3 How the legal rights of external parties may impact on construction works. 4.4 Identify the contractual responsibilities of individual parties, including the quantity surveyor in a construction project.
5. Knowledge in the different types of construction insurance, warranties and bonds [K].	5.1 Construction bonds. 5.2 Construction insurances. 5.3 Collateral warranty and practical considerations of warranties. 5.4 Guarantees. 5.5 Building codes. 5.6 Defects. 5.7 Breach of Contracts and remedies.
Additional information about the unit	
Units aim(s)	

References and Further Reading

1. Powell, G (2016) *Construction contract preparation and management: from concept to completion* 2nd Edition, Basingstoke, Hampshire: Palgrave Macmillan

2. Ramus, J.W. & Birchal, S. & Griffiths, P. {1998). *Contract Practice for Surveyors*. 3rd edition Oxford: Butterworth-Heinemann

3. Kwakye,A.A. (1994) *Understanding Tendering & Estimating*. Great Britain: Gower Publishing Company.

4. Smith, A. J. (1995) *Estimating, Tendering & Bidding for Construction*. London: Macmillan

Unit Title	Post Contract Administration
Unit Code	QS504

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

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S: Skills (to be able, without supervision, to perform relevant functions)

Learning outcomes: **The learner will:**	**Assessment criteria:** **The Learner can:**
1. Be able to deal with variations [K, S].	1.1 Variations accounts and valuing variations. 1.2 Additional expenses arising from variations and Use of erroneous rates. 1.3 Change control procedures. 1.4 Quantify preliminaries, overheads, profit and professional and other fees within variations. 1.5 Issuing Instructions relating to variations, prime cost sums and making good defects.
2. Able to administrate construction processes, meetings and reporting procedures [K, S].	2.1 Construction kick-off meeting. 2.2 Construction progress meeting and progress reports. 2.3 Defects reporting procedures. 2.4 Issuing necessary notices according to the contractual requirements. 2.5 Understand contractual provisions such as early possession and practical completion and their impact on the roles of the parties to the contract.
3. Understanding of what constitutes Settlement Agreements and auditing of final accounts [K, S].	3.1 Constituents of final accounts. 3.2 Adjustments of prime cost sums, provisional sums, approximate quantities claims, fluctuations in costs of labour and materials, etc. 3.3 Summary of the account. 3.4 Final certificate and effect of the final certificate.
4. Be able to prepare certificates and payments [K, S].	4.1 Valuation of preliminaries, provisional work, measured work and variations and extras. 4.2 Valuation of nominated sub-contractors and suppliers work, fluctuations, unfixed materials and retention. 4.3 Interim payments 4.4 Interim certificates and final completion Certificate. 4.5 Sectional completion and retention. 4.6 Components of interim certificates and payments.
5. Able to prepare Cash-flow forecasts [K, S].	5.1 Cash-flow calculations and forecast. 5.2 Cost management systems (CMS).
Additional information about the unit	
Units aim(s)	

References and Further Reading

1. Kwakye, A.A. (1997) *Construction Project Administration in Practice* London: Wesley Longman.

2. Powell, G (2016) *Construction contract preparation and management: from concept to completion* 2nd Edition, Basingstoke, Hampshire: Palgrave Macmillan

3. Ashworth, A. & Hogg, K. *Will's Practice & Procedure for the Quantity Surveyors*. 12th edition England: Blackwell Publishing Ltd.

4. Ramus, J.W. & Birchal, S. & Griffiths, P. (1998). *Contract Practice for Surveyors*. 3rd edition. Oxford: Butterworth-Heinemann

Unit Title	Value Engineering
Unit Code	QS505

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

Learning outcomes are the results which students will have achieved on successfully completing a course. The following reference points were used in designing the learning outcomes;

- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

- The professional competencies required by the ICES, the RICS and the CIOB.

Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)
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Learning outcomes: The learner will:	Assessment criteria: The Learner can:
1. Be able to implement value management for construction projects [K, U].	1.1 Application of value management and implementing a value management programme. 1.2 Optimizing the benefits of joint venture projects and re-engineering the procurement process.
2. Understand value engineering procedure [K].	2.1 Elements of value engineering and selection. 2.2 Analysis, teamwork, procedures, information, speculation, evaluation, investigation and planning, implementation and summary.
3. Be able to valuate materials for construction projects [K, S].	3.1 Material requisition, bill of materials and methods of materials. 3.2 Unfixed materials on/off site. 3.3 Inflation.
4. Whole life costing for construction works [K, S]	4.1 Understand and apply the principles of whole life costing to construction projects. 4.2 The influence of whole life costing on value engineering of construction projects.
5. Risk management [K, S]	5.1 Understand risk management as applied to construction projects. 5.2 Prepare risk register for proposed construction projects. 5.3 Understand the likely impacts of risks on proposed projects.
6. Understand objectives and principle of value analysis in construction projects [U, K].	6.1 Objectives and principles of value analysis and participants in value analysis. 6.2 The Value Analysis Process.
Additional information about the unit	
Units aim(s)	

References and Further Readings

1 Hackett, M, Robinson, I & Statham, G (2007) *Procurement, Tendering & Contract Administration*, Oxford, The Aqua Group and Blackwell Publishing.

2 Ivor Seeley (1997), *Quantity Surveying Practice*, MacMillan.

Unit Title	Construction Claims and Dispute Resolution
Unit Code	QS506

Summary

Status	core
Learning Hours	200 GLH including Lectures and Group Exercises
Credits Value	20
Period of Study	2 months

Summary of Learning Outcomes

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- QAA Subject Benchmark Statements to ensure: that appropriate and effective teaching, support, assessment and learning resources are provided for students; that the learning opportunities provided are monitored; and that the provider considers how to improve them; and

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Learning outcomes are expressed under three broad headings of achievement in both threshold and typical standards:

U: Understanding (a general awareness of the activity)

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Learning outcomes: The learner will:	Assessment criteria: The Learner can:
1. Understand and have knowledge of basis of Claims [U].	1.1 Types of claims. 1.2 Implied terms, variation of contract, omission of work to give it to others, extra work, possession of site and site conditions.
2. Understand and have knowledge in types of claims and science behind the contractor's claims [U, K].	2.1 Common law claims, ex gratia claims, and contractual claims. 2.2 Fluctuations claim, claims for extensions of time, claims for loss and/or expense, global claims
3. Understand and have knowledge of claims under forms of contract [U, K].	3.1 Claims for variations. 3.2 Claims for extensions of time. 3.3 Claims for additional payment due to prolongation, acceleration and disruption claims. 3.4 Interim and final claims.
4. Able to Identify and recognise relevant issues and preparation of claims arising out by possible problems [K, S].	4.1 Common occurrences, cause and effect, allocation of culpability and counter claims. 4.2 Analytical methods and evaluation techniques, delay, prolongation, acceleration, mitigation and disruption.
5. Able to prepare and defend effective claims [K, S].	5.1 Standard Forms and Applications. 5.2 Research in objectives and methods, focus Areas, trends and trails, data basing and process. 5.3 Head of claims, development of claims, procedures or processes of claims. 5.4 Review and analysis of claim and presentation. 5.5 Risk factors which may lead to the formulation of a contractual or extra-contractual claim.
6. Understand team working, conduct rules, ethics and professional practice.	6.1 Understand personal professional role and society's expectations of professional practice. 6.2 Understand rules of conduct and regulations, including the general principles of law and the legal system, as applicable in the country of practice. 6.3 Knowledge of the principles, behaviors and dynamics of working in a team. 6.4 Understand the principles and practice of client care in the area of practice.

7. Understand dispute avoidance and alternative dispute resolution processes [U, K].	7.1 Communication and negotiation including effective oral, written, graphic and presentation skills. 7.2 Mediation. 7.3 Conciliation. 7.4 Adjudication. 7.5 DAB (Dispute Adjudication Board). 7.6 Arbitration.
Additional information about the unit	
Units aim(s)	

References and Further Reading

1. Chappell, David (David M.) *Building Contract Claims*. – 5th edition.
2. Eggleston, Brian, *CEng. Liquidated damages and extensions of time in construction contracts*. – 3rd edition.