



Subject	Construction Financial Management and Procurement
Subject Code	220
Academic year	2018-19

Summary

Semester	1
Status	core
Learning Hours	98hrs including Lectures, Tutorials and Independent Study
Credits	6
Period of Study	10 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Knowledge of the development of a cost plan.
2. Understand the basics of company accounts, including turnover, profit/loss, work in hand and cash flow.
3. Understand internal accounting controls in construction companies.
4. Understand revenue recognition options for construction companies.
5. Knowledge in cost of construction firm.
6. Be able to examine sample report forms used throughout the project in order to demonstrate the need for meaningful cost control and analysis.



7. Understand construction procurement strategies and be able to apply project management skills to a development project.
8. Understand basic cost flows and project budget
9. Knowledge and understanding of the main procedures associated with the procurement, design and construction of building and civil engineering projects.

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Tutorial 1: 10% (0.6 credits)
2. Assignment: 90% (5.4 credits)

3. Satisfied assignments pass mark is minimum 50% (2.7 credits) of assignment credits
4. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
5. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
6. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

80% of attendance in each semester should be required to submit assignments.

Study Area

1. Contractor's Business

The Contractor's Business Needs, Creation of Clients, Profit Making, Provision of Good Product, The Contractor's Policy and Marketing Strategy, Level of turnover, Business finance, Type and number of projects, Organization structure, Establishing market segment, Maintenance of reliable client, Accurate estimates and successful tenders, Monitoring site operations, Site control, Cost analysis, Cost control, Reputation and quality of service.



2. Introduction to Construction Economics

Finance and Investment of Construction Projects, Managing Costs and Profits, Managing Cash Flows, Construction Accounting Systems, General Ledger, Method of Accounting: cash, accrual, percentage of completion, Final Contract, the balance sheet; Assets: cash, accounts receivable, inventory, notes receivable, prepaid expenses, total current assets, fixed assets, accumulated depreciation, net fixed assets, total assets; Liabilities: accounts payable, notes payable, accrued payables, capital lease payable, warranty reserves, total current liabilities, Other Current Liabilities, Long-Term Liabilities, Total Liabilities, Owner's Equity, Balance Sheet.

3. Resource Management

Efficiency of Capital, Cost of Capital: Payments to shareholders, Payments to financial institutions, Payments for financial advice and services; Efficiency of Labour, Increasing productivity, Cost of Labour, Efficiency of Plant, Plant utilization, Hiring and purchasing plant: Advantages, Disadvantages; Purchase of plant: Cost of transport, Cost of working base, Cost of fuel, Cost of operators; Materials: Good material, Quantity, Source of supply, Purchase price, Delivery to the right site, Time for delivery, Unloading and storage facilities, Method of incorporation, Waste factor, Subcontracting, Effects of Subcontracting in the Construction Industry.

4. Costs of the Construction Firm

Firm, Profit, Relationship between Output and Input, Short-Run Costs, Fixed Costs, Variable Costs, Short-Run Average Cost Curves, Average Fixed Costs (AFC), Average Variable Costs (AVC), Average Total Costs (ATC), Marginal Cost, Finding Minimum Costs

5. Procurement in Construction

Procurement Methods: Traditional Method, Based on bills of firm quantities, Based on bills of approximate quantities, Based on drawings and specification, Based on a schedule of rates, Based on cost reimbursements, The composite nature of contracts, Circumstances in which the various types of contract may be used



References and Further Readings

1. Seely I,H. (1989) *Advanced Building Measurement*. Macmillan
2. David J. Pratt (2011) *Estimating for Residential Construction*, 2nd edition,
3. Ashworth A. (2008) *Pre-contract studies: development economics, tendering, and estimating*, 3rd Ed., Oxford, Blackwell.
4. Ashworth A and Hogg K. (2007) *Willis's and procedure for the quantity surveyor*, 12th ed. Oxford, Blackwell.
5. Brook M. (2008) *Estimating and Tendering for Construction Work*, 4th Ed., Oxford, Butterworth-Heinemann.
6. Cartledge D (2009) *Quantity Surveyor's Pocket Book*. 1st Ed., Oxford; Butterworth-Heinemann.
7. *Construction accounting and financial management* / Steven J. Peterson. 2nd ed. by Pearson Education, Inc
8. *Construction Economics a new approach*, Danny Myers, 2nd Edition 2008 by Taylor and Francis



Module	Construction Law
Module Code	230
Academic year	2018-2019

Summary

Status	core
Learning Hours	98hrs Learning including Live Online Lectures, Tutorials and Independent Study
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Become familiar with construction contracts and responsibilities of contracting parties.
2. Knowledge in employment legislation and its applicability to construction projects.
3. Understand the principles of contract law and their application.
4. Demonstrate a basic knowledge of the nature and significance of law and legislation as applied to the construction process.



5. Demonstrate an understanding of the principles and process of formation of construction contracts and describe the importance of contractual documents.
6. Demonstrate a basic knowledge and understanding of the importance of ethics and conduct in professional practice.
7. Be able to apply appropriate principles of construction management, law, and ethics.
8. Knowledge in employment legislation and its applicability to construction projects.

Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Tutorial 1: 10% (0.6 credits)
2. Assignment: 90% (5.4 credits)
3. Satisfied assignments pass mark is minimum 50% (2.7 credits) of assignment credits
4. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
5. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
6. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

Study Area

1. Law of Contract

Nature of contract, Types of contracts: valid contracts, voidable contracts, void contracts or void agreements, unenforceable contracts; Executed and Executory Contracts, Courts system in England and Wales, Valid Contract: Unilateral or bilateral contracts, Letter of intent;



2. Introduction to Construction Contract

Importance of a written contract: clarity and certainty, procedures, risk allocation; Terms of a construction contract; Risk allocations and approaches, Role of participants;

3. Contractual Terms

What should a written construction contract cover: Fidic Contracts, Programme, Delays and extension of time, Delay damage, Tailoring the contract, Contractual Terms, Representations and Terms, Incorporation of express terms, Contract is in writing, Contract is signed, The importance of the statement, The timing of the statement; Classification of Express Terms: conditions, warranties, innominate terms; Implied Terms: terms implied in law, customary implied terms, statutory implied terms;

4. Acceptance

Acceptance by conduct, Acceptance must be qualified, Acceptance of tenders, The battle of forms, Communication of acceptance: general rule;

5. Health & Safety and Employment Regulations

Employer's liability for injuries to his employees, Health and safety work, Employer and employee, Health and safety regulations, Workplace (Health and Welfare) Regulations, Rights and Duties of the Parties to the Contract: duties of employer, duties of an employee; Vicarious liability, The course of employment.

6. Completion

Practical completion or substantial completion, Section completion and partial possession by the employer, Acceleration, Works programme

References and Further Readings

1. *Eggleston, Brian, CEng. Liquidated damages and extensions of time in construction contracts /Brian Eggleston. — 3rd ed, pp86-120, 175-177, 188-196*
2. *William Godwin , International Construction Contracts A handbook, A John Wiley & Sons, Ltd., Publication 2013 pg3-10*
3. *Keith Manson, (1994) Law for Building Practitioners, B. I. Batsford Limited pp 179-206*
4. *John uff, (2005) Construction Law, Sweet & Maxwell, 9th ed, pp 1-5 & 12.*



5. *Stephanie Owen, Law for the Construction Industry, Addison Wesley Longman Limited (1998) 2nd ed, pp1-13 & 47 – 48*
6. *David Chappell , Building Contract Claims, 5th Edition, Wiley Blackwell publication pg 128-135*
7. *H Randolph Thomas and Ralph D Ellis, Interpreting Construction Contracts, pg 49-67*
8. *Rowlinson, Michael, author. Practical Guide to the NEC Engineering and Construction Contracts / Michael Rowlinson. – Third edition. Pg 49-62 85-136*
9. *Ashworth, A. (2001) Contractual procedures in the construction industry, 4th ed. Oxford: Longman*
10. *Murdoch, J. & Hughes, W. (2000) Construction Contracts Law and Management, 3^d ed. London: Span Press.*
11. *Owen, s (1998) Law for the construction industry, 2^d ed. Harlow: Longman.*



Module Construction Site Operations

Module Code	240
Academic year	2016

Summary

Status	core
Learning Hours	98hrs Learning including Live Online Lectures, Tutorials and Independent Study
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Knowledge and able to manage proper site management and administration during projects.
2. Determine the factors affecting the space available
3. Understand the equipment and machinery restrictions as well as material storage requirements
4. Describe temporary facilities and auxiliary works
5. Define worksite offices, service facilities and security at the site
6. Recognise the importance of internal organisation of the construction project.



Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Tutorial: 10% (0.6 credits)
2. Assignment: 90% (5.4 credits)
3. Satisfied assignments pass mark is minimum 50% (2.7 credits) of assignment credits
4. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
5. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
6. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

Study Area

1. Management of Site

Work Programme, Works Schedule, Daily Site Duties: Important Elements of Daily Site Duties: Contact Details, Notice Provisions, Scheduling Meetings, Record Keeping;; Communication: Advising how to get to the site, Communicating with the general public, Communication with the client and its representatives, Communicating to staff on site and in the head office, Electronic communication, Health and safety

2. Construction Site Layout

Basic site types, aspects needed for a good site layout, Analysing and Designing Work Sites, Site Layout Planning Elements: Safety, Site Boundaries, Site Accessibility, Design and Location of Temporary Road, Information Signs, Security, Accommodation, Offices, Water Supply and Sanitation, Material Handling, Equipment, Storage and site cleaning, Craft Change-Houses, Batch plant and Fabrication Shops, Waste Disposal;



Managerial Problems: Material stacks wrongly located, Plant and equipment wrongly located, Inadequate space allowed, Site huts wrongly located in relation to their effective use;

3. Construction Site Layout

Temporary Facilities Characteristics: Satisfying environmental and safety regulations, Availability of diverse solutions for the same problem, Relatively short life span of a specific location, Reutilization with a minimum loss for the same or modified function at another location, Easy of assembly, dismantling, and exploitation, Standardization of design; Temporary Facilities Selection: Construction type, Type of contract, Project size, Project location; Example of Site Layout Planning: Criticism of existing site layout, Suggested improved layout;;

4. Health and Safety Regulations

Key Legislation and Regulations for the Construction Industry: Health and Safety at Work, etc. Act 1974; Enforcement; CDM Co-ordinator; Principal Contractor; Health and Safety management Systems and Regulations: The Control of Substances Hazardous to Health Regulations (COSHH) 2002, Construction, (Design and Management) Regulations 2007, The Construction (Health, Safety and Welfare) Regulations 1996, The Management of Health and Safety at Work Regulations 1999; Health and safety Plan and Process: Pre Contracting Stage, Construction Stage; Other Regulations: Provision and Use of Work Equipment 1998 Regulations (PUWER), Lifting Operations and Lifting Equipment Regulations 1998 (LOLER), Workplace (Health, Safety and Welfare) Regulations 1992, Control of Substances Hazardous to Health Regulations 2002 (COSHH), Control of Asbestos at Work Regulations 2002, Manual Handling Operations Regulations 1992, Health and Safety (Display Screen Equipment) Regulations 1992, Electricity at Work Regulations 1989, The Personal Protective Equipment at Work Regulations 2002, The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR), Control of Major Accident Hazards Regulations 1999 (COMAH), Work in Compressed Air Regulations 1996, Reporting of Injuries Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR), The Health and Safety (First-Aid) Regulations 1981, The Noise at Work Regulations 1989, Pressure Equipment Regulations 1999, The Supply of Machinery (Safety) Regulations 1992;



5. Health and Safety and Environmental Practices

The health and safety file required under CDM regulations, Emergency Procedures, Incidents and accidents during construction, Management Plan for Safe Working Practices: HSE Risk Assessment, Stages in carrying out an environmental risk assessment, Environmental Risk Assessment; Site Safety Risk Assessment Plans;

References and Further Readings

1. Heap, A. (1987). *Improving Site Productivity in the Construction Industry*. International Labour office, ILO, Geneva.
2. Chandler, I.E. (1987). *Material Management on Building Site*. The Construction Press, London.
3. Harris, F. (1989). *Construction Equipment and Methods*. Longman Group, UK.
4. Hedley, G., and Garrett, C. (1983). *Practical Site Management: An illustrated Guide*. 2nd edition, London.
5. Pellicer, Eugenio, 1965–*Construction management* / Eugenio Pellicer, Víctor Yepes, José C. Teixeira, Helder P. Moura, Joaquín Catalá. – First edition.



Module	Development of Construction Procedures
Module Code	250
Academic year	2018-19

Summary

Status	core
Learning Hours	60hrs Learning including Live Online Lectures, Tutorials and Independent Study
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Able to advise on contractual matters and able to prepare documents and correspondence.
2. Demonstrate an understanding of the principles and process of formation of construction contracts and describe the importance of contractual documents.
3. Understand the sound grasp of the principles of learning and development and understanding the importance of the learning process for oneself and others.
4. Able to manage project documentation to assess the merit of claim and manage disputes.
5. Able to implement procedures for adequate record keeping.



6. Knowledge and able to manage proper contract administration during projects.
7. Knowledge in principles of insurance, including professional indemnity insurance and the handling of insurance claims.

Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Assignment: 100% (6.0 credits)
2. Final grade for a pass is minimum 40% (2.4 credits) of total credits and satisfied assignments
3. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
4. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

Study Area

1. Fundamental of Contract Structure

Introduction, Standard forms of applications: Requirements in the Contract, Content of Contracts, Forms of Agreement, Conditions of Contract, Applications: Turnkey, Engineering, Procurement and Construction (EPC), Works Designed by Employer (Procure & Construction), Shared employer and contractor risks;

2. Pre-Contract Structure

Document Precedence, Key Clauses, Payment Methods, Sharing risk and responsibilities on payment method, Pre-Contract Documentation, Preliminary enquiry, Errors in tender documents, Letters of intent, Performance bonds;



3. Post-Contract Structure

Post Contract Documentation: Pre-commencement meeting, Site and progress meetings, Site diaries, the master programme, Discrepancies in documents, Compliance with statutory requirements, Variations; Documentation Process, Elements of Project documentation; Accurate Records: Electronic Records Keeping; Documentation related to the Project Relationship; Elements of Log;

4. Site Documentation

Project Documentation from the Site: Site Manager's record of daily activities: Workers/Labourers, Testing, Delivery of Materials, Records on Temporary Suspension of Work or Time, Resumption of Work, Daily Time Charges, Health and Safety; Photographs; Documentation to the Subcontractors; Common Issues with Sub-Contracting: Lack of adequate manpower, Delays in submitting shop drawings, Delaying materials, Payment Issues, Lower bid sub-contractors; Construction Insurance and Bonds: Workers' Compensation Insurance, Indemnity and insurance, Some general principles of insurance, Professional indemnity insurance, Surety Bonds, Bid Bond, Performance Bond, Labor and Material Bond, Subcontractor Bonds, Lien Bond

5. Contract Documentation and Administration

Important Documents: Shop Drawings, RFI and RFC, Site Conditions Documentation, Cost proposal or cost estimate requests, Conditions that impact completion time: Alternation, Unforeseen Subsurface or Unusual Conditions, Claims or Dispute Resolution, Monthly requisitions, Documentation of Close-out;; Important Elements of Contract Administration: Contract Details, Notice Provisions, Time provisions in accordance with FIDIC (Construction - P&DB – EPCT), Scheduling Meetings, Record Keeping; Documentation Management: Contract Register, Electronic Systems, Progress Records, Cost Records, Records/Minutes of Meeting, Correspondences, Site Diaries; Contractual Entitlements

6. Procedures in Construction Projects

Identify the role of stakeholders in the construction management process; Demonstrate knowledge of principles for managing and motivating workforce who form part of the construction process; Understand the



principles of financial management for construction projects; Understand market planning in the construction industry.

References and Further Readings

1. Ramus, J.W. & Birchall, S. & Griffiths, P. (1998). *Contract Practice for Surveyors*. 3rd.ed. Oxford: Butterworth-Heinemann
2. Kwakye, A.A. (1994) *Understanding Tendering & Estimating*. Great Britain: Gower Publishing Company.
3. Smith, A. J. (1995) *Estimating, Tendering & Bidding for Construction*. London: Macmillan
4. Brooks, D., 'Does public accountability achieve value for money', *Building Technology and Management*, March, pp. 42-86.
5. Groaks, J. and Householder, J., 'Contractors' uncertainty and client intervention', *Habitat Int.*, 14, (2-3), pp. 12-89.



Module	Forms of Contract
Module Code	310
Academic year	2018-19

Summary

Status	core
Learning Hours	98hrs Learning including Live Online Lectures, Tutorials and Independent Study
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Become familiar with construction contracts and responsibilities of contracting parties.
2. Become familiar with Forms of Construction Contracts such as FIDIC, JCT, NEC
3. Demonstrate an understanding of the principles and process of formation of construction contracts and describe the importance of contractual documents.
4. Demonstrate a basic knowledge and understanding of the importance of ethics in contract management.
5. Identify the constituents of contract documents and their significance for proper execution of the contract.
6. Explain the need of lump sums in a contract.



7. Appraise contractual problems and identify contractual provisions and procedures involved in the administration of building contracts, within the context of commonly used standard forms of contract.

Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Tutorial 1: 20% (1.2 credits)
2. Assignment: 80% (4.8 credits)
3. Satisfied assignments pass mark is minimum 50% (2.4 credits) of assignment credits
4. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
5. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
6. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

Study Area

1. Types of Contract

Types of Contract: Contract based on Bills of Firm Quantities, Contracts based on Drawings and Specifications, Contracts based on Bills of Approximate Quantities, Contracts based on Schedule of Rates, Type of Schedules: Standard Schedule, 'Ad hoc' Schedule, Bills of Quantities from Previous Contracts; Contracts based on Cost Reimbursement: Cost Plus Percentage Fee Costs Plus Fixed Fee, Target Cost, The Composite Nature of Contracts, Circumstances in which the Various Types of Contracts are used;



2. Fundamental of Agreement

Lump-Sum Agreement (Stipulated Sum, Fixed Price), Unit-Price Agreement, Cost-Plus-Fee Agreements: Percentage Fee, Fixed Fee, Fixed Fee with Guaranteed Maximum Cost, Sliding Scale Fee, Fixed Fee with a Bonus and Penalty; Agreement Provisions: Scope of the Work, Time of Completion, Contract Sum, Progress Payments, Retained Percentage, Schedule of Values, Work in Place and Stored Materials, Acceptance and Final Payment; Templates-Condition of Contract and other forms

3. Contractual Documents – JCT Forms

Structure of Contract Documents: Form of contract, Bills of quantities, Specification, Schedule of works, Schedule of rates, Drawings, Preparations for executing the contract, Form of contract, The Conditions, Bills of quantities, Specification, Schedule of Works, Drawings, Copies of contract documents, The contract sum

4. Forms of Construction Contract

FIDIC contracts: Commencement and completion, Extension of time, Variations, Changes in quantity, Particular entitlements, delays caused by authorities, definition of force majeure, Climatic conditions, Unforeseeable shortages, Prevention, Insurance; Building Forms: JCT 2005 contracts, Commencement and completion, Notification of delay, Conditions precedent, Extension of time, Instructions, Specified perils, Force majeure, Payment of liquidated damages; Nec 3 – Engineering And Construction Contract, 2005: Commencement and completion, Sectional completion and key dates, Extension of time, Listed compensation events, Delay damages, Listed compensation events, Delay damages;

References and Further Readings

1. JCT, Practice Note 23, *A Contract Sum Analysis* (London: RIBA Publications, 1987).
2. KEATING, D., *Keating on Building Contracts, 6th edition* (London: Sweet & Maxwell, 1995).
3. KWAKYE, A.A. (1997) *Construction Project Administration in Practice London: Wesley Longman.*
4. Ashworth, A. & Hogg, K. *Will's Practice & Procedure for the Quantity Surveyors.* 12th ed. England: Blackwell Publishing Ltd.



5. Ramus, J.W. & Birchall, S. & Griffiths, P. (1998). *Contract Practice for Surveyors*. 3rd ed. Oxford: Butterworth-Heinemann
6. Seeley, I. (1997). *Quantity Surveying Practice*. 2nd ed. Hampshire: Palgrave Macmillan.



Module	Construction Claims
Module Code	320
Academic year	2018-19

Summary

Status	core
Learning Hours	98hrs Learning including Live Online Lectures, Tutorials and Independent Study
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Understand and knowledge of works progress and determining /evaluating the effects of delay, prolongation and disruption.
2. Able to manage project documentation to assess the merit of claim and manage disputes.
3. Able to provide contractual advice on matters arising on a project.
4. Able to manage liability and quantify damages in a timely and cost effective manner.
5. Able to relieve from liquidated damages and claim additional time with costs
6. Identify and recognise relevant issues and why they are important.
7. Able to avoid claims arising out by possible problems.
8. Able to familiar to carry out notice requirements of the contracts.



9. Identify a process for managing change orders.
10. Able to prepare a high standard report including credible entitlement of the claims and the result towards economical resolution without expenses.

Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

Assignment: 100% (6.0 credits)

1. Satisfied assignments pass mark is minimum 50% (3.0 credits) of assignment credits
2. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
3. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
4. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

Study Area

1. Fundamental of Claims

Introduction, Type of claims: contractual claims, common law claims, quantum meruit claims, ex gratia claims; Basis of claims: justified claims, contractual claims, unexpected problems and expense; Claims under the contract: variations, measurement changes, Adverse Physical Obstructions or Conditions, Employer's Risks, Compliance with Statutes, Regulations, Price Fluctuations, Currency and Other Economic Causes, Defects and Unfulfilled Obligations, Failure to Commence, Delays, Suspension of Work, Release from Performance, Default and Termination, Other Miscellaneous Specified Events;



2. Extension of Time and Liquidated Damages

Purposes of extension provisions, Contractor's basic entitlement – FIDIC forms: Assessment of Delay, Grounds for Extensions of Time, A cause of delay referred to in the Conditions, Unforeseeable Physical Conditions, Full Supporting Particulars: Basic Requirements, Full Supporting Particulars: Presentation, The Engineer's Obligations; Notices, applications and assessments: Proof of entitlement, Need for records, Monthly progress meetings, Usefulness of programmes; Liquidated damages;

3. Change Management

Importance and variation requests: Instructed variation, Request for variations; Rules, Procedures, Claims: Development of claims, Procedures or Processes of claims.

4. Claims relating to Money

Prolongation: When should the delay costs be evaluated?, The 'heads' of a prolongation, Concurrent Delay Events, Classification of 'delays'; Damages and compensation; Disruption: Higher labour costs per hour, Loss of productivity (inefficiency); Acceleration; Mitigation

5. Projects and Problems

Common Occurrences, Cause and Effect, Allocation of Culpability, Counter Claims, Analytical Methods and Evaluation Techniques, Delay, Prolongation, Acceleration, Mitigation, Disruption; Document Precedence; Key Clauses;

6. Preparation of Substantiation of Claims

Research: objectives and methods, focus areas, trends and trails with its contents, data basing, notes/comments, key words; Process; Review and Analysis of Claim, Presentation: Structured Documents and Contents, House Style



References and Further Readings

1. *Chappell, David (David M.) Building contract claims / David Chappell. – 5th ed. Pg 95-113, 192-206*
2. *Robinson, Michael D., consulting engineer. A contractor's guide to the FIDIC conditions of contract / Michael D. Robinson. 2013, Pg 159-161*
3. *Rowlinson, Michael, author. Practical Guide to the NEC Engineering and Construction Contracts / Michael Rowlinson. – Third edition.*
4. *Taylor, Malcolm FRICS, Avoiding claims in building design: risk management in practice, pg 13-18*
5. *Eggleston, Brian, CEng. The NEC 3 engineering and construction contract: a commentary/Brian Eggleston. – 2nd ed. Pg. 58-75 126-149*
6. *FIDIC 1999, Plant and Design-Build for Electrical and Mechanical Works and for Building and Engineering*
7. *JCT Standard Building Contract without Quantities 2011*
8. *Powell-Smith, Vincent. Contract documentation for contractors/ Vincent Powell-Smith, John Sims, and Christopher Dancaster.-3rd ed. Pg 115-164*
9. *Stefan Fafinski and Emily Finch, CONTRACT LAW, 2nd ed 2009*
10. *William Godwin, BA (Lond), BPhil, DPhil (Oxon) Barrister, England and Wales, International Construction Contracts A Handbook with commentary on the FIDIC design-build forms, 2013*
11. *Thomas, H. Randolph, 1945, Interpreting construction contracts: fundamental principles for contractors, project managers, and contract administrators / H. Randolph Thomas, Ralph D. Ellis Jr. pg 37-48 49-81 160-199*
12. *Piers Venmore-Rowland, Peter Brandon, Investment, Procurement and Performance in Construction*
13. *Eggleston, Brian, CEng. Liquidated damages and extensions of time in construction contracts / Brian Eggleston. — 3rd ed. Pg 41-66 71-128*



Module	Construction Planning and Scheduling
Module Code	330
Academic year	2018-19

Summary

Status	core
Learning Hours	98hrs Learning including Live Online Lectures, Tutorials and Independent Study
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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

- QAA Subject Benchmark Statements (Construction, Property and Surveying (2008)); and
- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Understand the critical path method of scheduling
2. Be able to identify types of float, and the use of float to manage projects.
3. Be able to create check sheets; linear or line of balance schedules; bar charts; short interval schedules; critical path networks.
4. Be able to do delay and disruption analysis.
5. Be able to do risk analysis.
6. Understand principles of effective leadership
7. Be able to calculate Extension of Time, Prolongation Time, Standing Time, etc.



Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments and tutorial exercises will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Assignment: 100% (6.0 credits)
2. Satisfied assignments pass mark is minimum 50% (2.7 credits) of assignment credits
3. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
4. Final awarding grade for a merit pass is minimum 65% (3.9 credits) of total credits
5. Final awarding grade for a distinction pass is minimum 75% (4.5 credits) of total credits

80% of attendance in each module should be required to submit assignments.

Study Area

1. Introduction to Planning and Scheduling

Planning process in the project cycle, PRINCE2, Project execution plan, Cost and benefits of planning,

2. Planning and Scheduling Techniques

Selecting a Scheduling System, To-do lists, Checklist, Automating Checklist Schedules with Microsoft Excel, Electronic Planners, Magnetic Scheduling Boards

3. Project Scheduling and Analysis

3.1 Basis: Early and Late Start/Finish Times, Critical Path, Calculations;

3.2 Type of Schedules: Baseline schedule, Updated schedule, Recovery schedule, Re-baseline schedule, As-built schedule;

3.3 Software Programmes: Primavera, Microsoft Project, Purpose and Application;

3.4 Delay Types: Excusable Delay Event, Non-Excusable Delay, Excusable and Compensable Delay, Concurrent Delay



4. Schedule Risk Management

Types of Risk in Construction Projects, Schedule Risk Types, Importance of Good Planning for Risk Management, Importance of Good CPM Scheduling Practices for Risk Assessment, Schedule Risk Management Steps

5. Delay Analysis

5.1 The programme in a claim situation

5.2 Main Types of Schedule Analysis: As-planned vs. As-built schedule analysis method, Impact as-planned schedule analysis method, Collapsed as-built schedule analysis method; and Time impact analysis method (snapshot analysis and window analysis).

References and Further Readings

1. Mubarak, Saleh A. (Saleh Altayeb), *Construction project scheduling and control/Saleh Mubarak.—2nd ed*
2. Brandon Heffernan, *Project 2010, Basic Student Manual, 2010*
3. Ben Howard, *Microsoft Project 2013 Plain and sample*
4. Quantum PM Scott Daley, *Microsoft Project 2010 in depth, 2011*
5. Del Pico, Wayne J. *Project control: integrating cost and schedule in construction / Wayne J. Del Pico, CPE.2013*
6. Carl Chatfield, *PMP, and Timothy Johnson, MCTS, Step by Step Microsoft Project 2013,*
7. Sonia Atchison and Brian Kennemer, *Using Microsoft® Project 2010, 1st ed, 2011*
8. Paul E Harris, *Project Planning and Scheduling using Primavera P6, 2008*
9. Oracle Primavera Project Management P6, *Reference Manual, version 7.0*
10. Institute, *Project Management (2009). Practice Standard for Project Risk Management. PMI*
11. Jerry Brown Governor, *Project Scheduling with Primavera P6 Training Manual, December 2011, Ver 1*



Module	Construction Resource Management
Module Code	360
Academic year	2018-2019

Summary

Status	Core
Learning Hours	95hrs
Credits	6
Period of Study	4 weeks

Summary of Learning Outcomes

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- The professional competencies required by ICES and CIOB.

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

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

U: Understanding (a general awareness of the activity)

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

1. Understand concepts of human resource management in the construction industry.
2. Understand the impact of employment legislation that falls within the responsibility of the project manager.
3. Understand the project manager's responsibilities in managing the performance of construction works personnel.
4. Understand performance management within the construction industry.



Assessments

A variety of assessment methods are used such as tutorials, exercises and assignments are directly related to the course outcomes. The submission of assignments will help students to learn and pass the subjects with a merit or distinction grade.

The following split in the marking system is applied in the assessment:

1. Assignment: 100% (6.0 credits)
2. Final grade for a pass is minimum 50% (3.0 credits) of total credits and satisfied assignments
3. Final awarding grade for a merit pass is minimum 60% (3.6 credits) of total credits
4. Final awarding grade for a distinction pass is minimum 70% (4.2 credits) of total credits

Study Area

1. Concepts of Human Resource Management

The project manager's role in the organisation, theories of motivation for individuals and teams, various processes in HRM, functions of HRM, compare contemporary methods for managing teams, methods of managing conflict within the team, strategic human resource management

2. Impact of Employment Legislation

Employee rights and responsibilities of construction personnel, impact of employment legislation on managing a construction projects, employment law changes impacting UK construction, data protection act

3. Project Manager's Responsibilities in Managing the Performance of Construction Works Personnel

Methods for measuring performance of individuals and teams, ethical frameworks for raising professional standards in the construction industry, the importance of continuous professional development for the project manager and site personnel, an organisation's procedures for managing performance including capability and disciplinary

4. Performance Management within the Construction Industry



Project performance, performance measurement and management (PMM) in construction, methods of managing information, evaluate problem solving techniques, analyse budgets, time, profits, – setting targets, monitoring KPIs, LEAN Value Engineering, professional ethical responsibilities, corporate management, communications

References and Further Readings

1. Loosemore, M. and Dainty, A. (2012) Human Resource Management in Construction, 2nd edn,; Abingdon: Routledge
2. Calvert, R, Bailey, G. and Coles, D, (1995) Introduction to Building Management, 6th edn,; Oxford: Butterworth-Heinemann
3. Fellows, R., Langford, D., Newcombe, R. and Urry, S. (2001) Construction Management in Practice; Oxford: Blackwell Science