Subject Code	CSE20359
Subject Title	Contracts, Specifications, Quantities and Organization
Credit Value	3
Level	2
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	(1) To enable students to acquire basic knowledge of construction management to ensure quality and timely completion of civil engineering projects; (2) To equip students with basic principles in contract management; (3) To enable students to apply analytical and mathematical techniques for project management.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. apply the basic organisation concepts and construction management approaches to generate practical and effective solutions in construction projects while meeting the technical requirements and quality standards; b. understand the implications of various construction contracts and specifications together with their applications in practice; c. analyse systemically construction activities for determination of critical path and project duration; d. utilize the mathematical techniques and computer tools necessary for project management in confronting complexities and uncertainties in managing construction projects; e. develop quantitative analysis skills, English proficiency, communication ability and work ethics as needed for a construction management career.
Subject Synopsis/ Indicative Syllabus	1. Introduction and Organisation (3 weeks) Principles of organisational structures; Contractor's and Resident Engineer's site organisation; Contractor's and Engineer's head office organization. 2. Construction Management (3 weeks) Early tasks of construction work; site records; interim and final payments; programmes and progress charts; safety management in construction. 3. Contracts (2 weeks) Contract documentation; types of contract; main contract, sub-contracts; estimating and tendering procedures. 4. Specifications and Quantities (2 weeks) Function, types of specification; General Specification for Civil Engineering Works. Standard Method of Measurement for Civil Engineering Works; various types of bill of quantities; function and procedures in preparing bills of quantities; taking off, abstracting, billing; worked examples of typical civil engineering construction. 5. Critical Path Analysis (3 weeks)

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<tr><td></td><td>Introduction to graphical representation of construction schedules, use of CPM/PERT as a tool for planning and scheduling, and use of linear scheduling technique as a tool for planning and scheduling.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Fundamental knowledge will be covered in lectures. Tutorials will provide opportunities for discussion of lecture materials and will also be conducted in the form of examples and class problem-solving session to supplement understanding from lectures.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="5">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td></tr>
<tr><td>1. Assignments and test</td><td>30</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>2. Final Examination</td><td>70</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100</td><td></td><td></td><td></td><td></td><td></td></tr>
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Students must attain at least grade D in both coursework and final examination (whenever applicable) in order to attain a passing grade in the overall result.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

The students will be assessed with three components, i.e., the tutorial session and assignment, a mid-term test and a final examination at the end of the semester. The students will be required to attend tutorial sessions and submit in-class assignments. These tutorial sessions will enable students to acquire basic techniques and problem solving. The works in the tutorial sessions are closely related to construction management for civil engineering projects. Students will have to exert engineering judgments to complete the tutorial sessions. The tutorial sessions to together with the take-home assignments are best to achieve intended learning outcomes a to e The mid-term test will emphasize on assessing students’ basic concept and current practices of construction management. It is appropriate to achieve intended learning outcomes a to c. The final examination will consolidate students’ learning in lectures and tutorials. It is most appropriate to achieve the intended learning outcomes a to e.
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<tr><td>Student Study Effort Expected</td><td>
<table>
<tr><td></td><td>Average hours per week</td></tr>
<tr><td>Class contact:</td><td></td></tr>
<tr><td>▪ Lectures/ Tutorials</td><td>3 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Reading and studying</td><td>3 Hrs.</td></tr>
<tr><td>▪ Completion of Assignments</td><td>3 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>9 Hrs.</td></tr>
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Reading List and References	**<u>Essential Textbooks</u>** Tang, S.L., Poon, S.W., Ahmed, S.M. and Wong, K.W., *Modern Construction Project Management*, Hong Kong University Press, Hong Kong, 2003. Hong Kong Government, *Standard Method of Measurement for Civil Engineering Works*, 1992. Seeley, I.H., *Civil Engineering Quantities*, 4th edition, 1987, McMillian. Hong Kong Government, *General Specification for Civil Engineering Works*, 1992. Seeley, I.H., Civil *Engineering Contract Administration and Control*, 2nd Edition, 1993 McMillian. **<u>Reference Textbooks</u>** Pilcher, R. *Principles of Construction Management*, 3rd Edition, 1992 McGraw-Hill International (UK) Ltd. Smith, N.J. Engineering *Project Management*, 1995, Blackwell Science.