

## Subject Description Form

<b>Subject Code</b>	BRE439
<b>Subject Title</b>	Engineering Contract Procedure
<b>Credit Value</b>	3
<b>Level</b>	4
<b>Pre-requisite / Co-requisite/ Exclusion</b>	Nil
<b>Objectives</b>	Develop an understanding of the technological, practical, procedural, contractual and economic characteristics of engineering work including building services in building projects and civil engineering work.
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> <li>a. Possess the knowledge of the technological practices of engineering work.</li> <li>b. Understand the practices of procurement and contractual arrangements of engineering work.</li> <li>c. Produce and evaluate the measurement and documentation of engineering work.</li> <li>d. Appraise and apply the principle and practices of contractual procedures and administration in engineering work.</li> <li>e. Communicate effectively with contractual negotiation skills.</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<ol style="list-style-type: none"> <li>1. Technological aspects of building services work and civil engineering work.</li> <li>2. Cost appraisal and cost planning for building services and civil engineering projects.</li> <li>3. Procurement systems and contractual arrangements for building services and civil engineering projects.</li> <li>4. Documentation, measurement and valuation of building services and civil engineering work.</li> <li>5. Contract administration and procedure in building services and civil engineering projects.</li> </ol>
<b>Teaching/Learning Methodology</b>	Contract documentation and administration will form the main thrust of the course, to be underpinned on a comprehensive engineering work technologies and practices. Interactive lectures on the various technologies, practice and economic aspects will be conducted with a view of providing the background knowledge necessary for developing competence in documentation, procurement and administration in the field of engineering work. Interactive lecture and case studies will be utilized. Professional practitioners will be invited to facilitate problem based learning on different contract strategies in different projects. Tutorial sections will be provided to conduct systematic in discussions.

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	1.Course Work	50%	√	√	√	√	√
2. Examination	50%	√	√	√	√	√	
Total	100 %						
<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>Examination and coursework will constitute the 50% and 50% of the overall mark for the subject respectively. The coursework mark will be based on the assignments by producing documentation, seminar presentations and discussions. At least two assignments with equal contribution will be set.</p> <p>The assessment by examination will be based on a 2 hour examination. The coursework will be evaluated on; (i) a basic understanding of engineering work practices, economics of engineering work development, and its impact on the economy; (ii) a working knowledge of the contract documentation and administration of typical engineering work; (iii) a critical appraisal of alternative contract strategies, procedures and administration in engineering work.</p>							
Student Study Effort Expected	Class contact:						
	▪ Lecture		21 Hrs.				
	▪ Tutorial / Seminar		21 Hrs.				
	Other student study effort:						
	▪ Self learning and recommended reading		120 Hrs.				
	▪		Hrs.				
	Total student study effort		162 Hrs.				
Reading List and References	<b>Recommended:</b>						
	Wong K.D. (2008) <i>Target Cost Contracting in Hong Kong</i> – Chapter 12 of the book by PACE Publishing Ltd, namely “ <i>Contractual and Regulatory Innovations in Building and Real Estate</i> ” edited by Edwin Chan and Edward Yiu, Page 69 to 74, June 2008.						
	Wong K.D. (1998) " <i>Real Estate Development in Hong Kong</i> " Chapter 12 <i>Procurement &amp; Tendering</i> and Chapter 13 <i>Contractual Arrangement and Construction Management</i> , a book by PACE Publishing Limited 1998 ISBN 962-7723-09-6.						
HKIA/HKIS Standard Form of Building Contract 2005 Edition.							

HKSAR Government General Conditions of Contract for Civil Engineering Works 1999 Editions

HKSAR Government General Conditions of Contract for Electrical and Mechanical Engineering Works 1999 Editions

HKSAR Government General Conditions of Contract for Design and Build Contracts 1999 Editions

Ashworth, A (1994) *Cost Studies of Buildings*, Harlow: Longman Scientific & Technical.

HKSMM4 (2005) *Hong Kong Standard Method of Measurement for Building Services*.

Mayo-Chandler, Bryan (1980) *Estimating for the Engineering Services*, London: The Electrical Contractors Association.

Seeley, Ivor H (1984) *Building Economics: Appraisal & Control of Building Design*, London: Macmillan.

Atkinson, A.V., (1985) *Engineering Contract Administration*, Hutchinson

Barnes, M., (Editor)(1990), *Financial Control*, Thomas Telford

Cooper, D.F., (1987) *Risk Analysis for Large Projects*, Wiley

**Supplementary:**

Grounds, J. (1991) Effective Engineering Services Cost Management. *The Building Economist* **23**(June),20-21.

Kinlay & Bayley (1985) Quantity surveyors in engineering projects. *The Building Economist* **24** (2), 2-3.

Mills, Anthony (1991) The value of cost planning and bills of quantities. *The Building Economist* **24**(1),14-17.

Ott, A.J. (1989) Quantity surveyors in specialist services. *The Building Economist* **28** (1), 18-19.

Redding, J. (1987) Building services and the challenge of bills of Quantities.*The Building Economist* **25**(4)9-10.

Balke, L., (1989) *Civil Engineer's Reference Book*, Butterworths

Bunni, N.G., (1991) *The FIDIC Form of Contract, the fourth edition of the red book*, BSP Professional.

Government of Hong Kong, (1988) *SMM for Civil Engineering Works*, Hong Kong Government Printer

Government of Hong Kong, (1988) *Sub-contract Articles of Agreement and Conditions for Civil Engineering Works*, Hong Kong Government Printer

ICE *Civil Engineering Standard Method of Measurement 3* Third Edition, Thomas Telford, London 1991

ICE Civil Engineering Standard Method of Measurement 3 Examples

Wong and Tse (1998) “A Study of Quantity Surveying Practices in the Building Services Sector of Hong Kong” Asia Pacific Building and Construction Management Journal, Page 9 - Page 15 Volume Four December 1998 ISSN 1024-9540.

Wong K.D. (2006) “The application of a computerized financial control system for the decision support of target cost contracts”, ITcon Vol. 11, Special Issue Decision Support Systems for Infrastructure Management , Page. 257-268,  
<http://www.itcon.org/2006/19> Wong A K D (2006)