

Subject Description Form

Subject Code	BRE440
Subject Title	Cost and Value Management
Credit Value	3
Level	4
Pre-requisite	BRE363 or BRE362 or equivalent
Objectives	<p><i>This subject is intended to:</i></p> <ul style="list-style-type: none"> • Focus on both theories and applications of value management in different phases of a development, • Develop an appreciation for what can be accomplished using the techniques of VM and applied creativity, and • Identify management and technical issues that can be solved or addressed using the techniques of VM and critical thinking.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a. Comprehend and identify issue and problems concerning land, property and construction at project level b. Comprehend and identify issue and problems concerning land, property and construction at corporate level c. Formulate and implement strategies, policies and solutions for sustainable development and construction d. Possess skills to identify, analyse and solve problems e. Communicate effectively
Subject Synopsis/ Indicative Syllabus	<p>Notion of value: value, function and cost.</p> <p>Value management basics: historical development; project selection (types, values, and timing); alternative workshop approaches (e.g. the 40-hour job plan, the Charette, the VM audit, and the contractor's change proposal).</p> <p>Value management methodology: - VM job plan (information, analysis, creativity, evaluation, development, proposal); function analysis, group dynamics, creativity, and problem-solving skills</p> <p>Life cycle costing for construction projects</p> <p>Comparison of value management and traditional cost management techniques.</p> <p>Case studies of the practice of value management in Hong Kong and overseas.</p>
Teaching/Learning Methodology	<ul style="list-style-type: none"> ▪ Interactive lectures with discussions and Q&A to test students understanding before starting a new topic ▪ Use of videos to introduce concepts and pose discussions during tutorials ▪ Quiz to test students understand on this subject ▪ Small team projects to simulate real-life work settings ▪ Sharing and discussions in tutorials ▪ Use workshop settings to facilitate students understanding of value management concepts ▪ Introduce both local and overseas real-life case studies to facilitate understanding and appreciation of real-life practices

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
	Small team project	25 %	√	√	√	√	√
	Quiz	25 %	√	√		√	
	Examination	50 %	√	√	√	√	√
Total	100 %						
	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>The team project brief resembled real-life scenario but modified to suite students' level. The project asked the students to design and facilitate a value management workshop for a project and they also need to bid for the project from the perspective of a professional service firm. Finally, students were asked to identify, analyse and solve problems that they encountered in that particular project. Since they are acting as professional advisor for the client/owner, they need to possess skills that they can communicate effectively to their client. At the conclusion of this subject, all students had achieved the intended subject learning outcomes assessed through the quiz, team project and examinations.</p>						
Student Study Effort Expected	Class contact:						
	▪ Lectures		26 Hrs.				
	▪ Seminars		13 Hrs.				
	Other student study effort:						
	▪ Self study materials		20 Hrs.				
	▪ Assignments/Quiz Preparation		56 Hrs.				
	Total student study effort		115 Hrs.				
Reading List and References	Akiyama, K. (1991), <i>Function Analysis: Systematic Improvement of Quality and Performance</i> , Productivity Press.						
	Ashworth, A. and Perera, S. (2015), <i>Cost Studies of Buildings</i> , Routledge.						
	Connaughton, J.N. (1996), <i>Value Management in Construction: A Client's Guide</i> , Construction Industry Research and Information Association.						
	Dell'Isola, A.J. (1997), <i>Value Engineering: Practical Applications - for Design, Construction, Maintenance & Operations</i> , R.S. Means Company.						
	Fong, P.S.W. et al (1998), <i>Applications of Value Management in the Construction Industry in Hong Kong</i> , Dept. of Building & Real Estate, The Hong Kong Polytechnic University.						
Fowler, T.C. (1990), <i>Value Analysis in Design</i> , Van Nostrand Reinhold.							

Hayden, G.W. (1996), *Value Engineering of Building Services*, Building Services Research and Information Association.

Institution of Civil Engineers (1996), *Creating Value in Engineering*, Thomas Telford.

Kelly, J., Male, S. and Graham, D. (2015), *Value Management of Construction Projects*, John Wiley & Sons.

Kirk, S. J. and Dell'Isola, A. J. (1995), *Life Cycle Costing for Design Professionals*, McGraw-Hill.

Norton, B.R. (1995), *Value Management in Construction: A Practical Guide*, Macmillan.

Palmer, A. (1992), *A Comparison of US Value Engineering with British Cost Control Procedures*, Value and the Client, Surveyors Publications.

Park, R.J. (1999), *Value Engineering: A Plan for Invention*, St. Lucie Press.

Shen Q.P. and Liu G.W. (2003) Critical success factors for value management studies in construction, *Journal of Construction Engineering and Management*, American Society of Civil Engineers (ASCE), 129(5), 485-491.

Various materials provided in the designated e-learning management system.