City University of Hong Kong
Course Syllabus

offered by Department of Architecture and Civil Engineering
with effect from Semester A 2022/23

Part I Course Overview

Course Title:	Value Management for Construction
Course Code:	CA6120
Course Duration:	1 Semester (Some courses offered in Summer Term may start a few weeks earlier than the normal University schedule. Please check the teaching schedules with CLs before registering for the courses.)
Credit Units:	3
Level:	P6
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	BC6120 Value Management for Construction
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

The course aims to apply systematic decision techniques in an inter-disciplinary professional context for solving the construction problems.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Solve construction problems by systematic job plan;		✓		
2.	Analyze functions of construction projects or components;			✓	✓
3.	Allocate cost and worth to functions identified;			✓	✓
4.	Stimulate wild ideas by creative techniques in developing alternatives;			✓	✓
5.	Develop proposals for each evaluated alternatives; and				✓
6.	Present VM proposal appropriately.				✓
		100%			

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)
(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.						Hours / week (if applicable)
		1	2	3	4	5	6	
Lecture	Topics related to each phase of the job plan	✓	✓	✓	✓	✓		
Workshop	Students need to work for a project based on the knowledge learned	✓	✓	✓	✓	✓	✓	
Presentation	Students need to present their work frequently		✓	✓	✓	✓	✓	

Semester Hours:	3 hours per week
Lecture/Tutorial/Laboratory Mix:	Lecture (1); Tutorial (2); Laboratory (0)

4. Assessment Tasks/Activities
(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks / Activities	CILO No.						Weighting	Remarks
	1	2	3	4	5	6		
Continuous Assessment: 80%								
Quiz	✓	✓	✓				20%	
Assignment	✓	✓	✓	✓	✓	✓	60%	
Examination: 20% (duration: 1 hour(s))								
Examination							20%	
							100%	

Coursework: 80% (20% test; 60% assignment) * For coursework assessment, a real project is conducted throughout the semester

To pass a course, a student must obtain minimum marks of 30% in both coursework and examination components, and an overall mark of at least 40%

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
Quiz	Ability to understand the job plan and analyze the function and the cost in VM concept	High	Significant	Basic	Not even reaching marginal levels
Assignment	Attitude to raise questions from the given information for the real project Ability to adopt various VM techniques for solving practical problems Accomplish to enhance the project value	High	Significant	Basic	Not even reaching marginal levels
Examination	Attitude to discover the hidden value from the scenarios Capacity to discuss the problem solving based on VM knowledge Ability to adopt various VM techniques for solving practical problems Accomplish to enhance the project value	High	Significant	Basic	Not even reaching marginal levels

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Quiz	Ability to understand the job plan and analyze the function and the cost in VM concept	High	Significant	Moderate	Basic	Not even reaching marginal levels
Assignment	Attitude to raise questions from the given information for the real project Ability to adopt various VM techniques for solving practical problems Accomplish to enhance the project value	High	Significant	Moderate	Basic	Not even reaching marginal levels
Examination	Attitude to discover the hidden value from the scenarios Capacity to discuss the problem solving based on VM knowledge Ability to adopt various VM techniques for solving practical problems Accomplish to enhance the project value	High	Significant	Moderate	Basic	Not even reaching marginal levels

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus
(An indication of the key topics of the course.)

VE history
Job Plan
Functional analysis: customer/task FAST diagram, technical FAST diagram
Cost analysis: pareto's law, cost model, life-cycle cost model
Creative technique: two cardinal ground rules, brainstorming technique, Gordon technique
Evaluation: trade-off analysis, paired comparisons, evaluation matrix

2. Reading List

2.1 Compulsory Readings
(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	Nil

2.2 Additional Readings
(Additional references for students to learn to expand their knowledge about the subject.)

1.	Bytheway C.W. (2007) FAST, creativity and Innovation. U.S.A.: J.Ross Publishing.
2.	Dell'Isola, A. (1997) Value Engineering: Practical Applications. Kingston, Mass.: R.S. Means Company.
3.	Kelly, J. (2003) Value Management of Construction Projects, Oxford: Blackwell Science
4.	Kelly, J. and Male, S. (1993) Value Management in Design and Construction. U.K.: E & FN Spon
5.	Park, D.E. (1985) Value Engineering Theory, Lawrence D. Miles Foundation, U.S.A.: Washington DC
6.	Woodhead R., McCuish J (2002) Achieving Results - How to Create Value.London: Thomas Telford Publishing.
7.	Zimmerman, L.W. and Hart, G.D (1992) Value engineering: a practical approach for owners, designers, and contractors. New York: Van Nostrand Reinhold
8.	Value Management: its Place in the Construction Industry [videorecording], London: Einstein Network
9.	SAVE International Conference Proceedings, USA: SAVE
10.	HKIVM International Conference Proceedings, HK: HKIVM
11.	The Value Manager. H.K.: Hong Kong Institute of Value Management
12.	Value World, Irving, Tex, U.S.A. : Society of American Value Engineers
13.	Lawrence Delos Miles Value Foundation , http://www.valuefoundation.org/
14.	SAVE International "The Value Society", http://www.value-eng.org/
15.	The Institute of Value Management , http://www.ivm.org.uk/
16.	Value Engineering Analysis and Management Academic Community, http://www.brookes.ac.uk/other/veamac/
17.	Hong Kong Institute of Value Management , http://www.hkivm.com.hk/
18.	Behaviour Construction Management , http://bcm.cityu.edu.hk/