Subject Description Form

Subject Code	CSE504
Subject Title	Construction Management and Law
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Recommended background knowledge: A bachelor degree or an equivalent academic qualification in Civil Engineering or construction related studies.
Objectives	To provide students at postgraduate study level, with emphasis on project management and contract administration in a civil/construction engineering context.
Intended Learning Outcomes	Upon completion of the subject, students will be able: a. to acquire essential, in-depth knowledge and skills of project management and contract administration in practicing civil engineering, thus providing leadership in driving construction project development; b. to develop an ability to formalize construction project models of time and cost suitable for planning and control purposes subject to practical constraints of technology, resource and working environment; c. to equip with an understanding on law of contract, special features of construction/building contracts, contractual issues and means to resolve the construction issues; d. to think systematically and critically in dealing with complex problems and making critical decisions in project management and be versatile and all-rounded in assessing alternatives, evaluating risks and their effects, and making tradeoff between conflicting objectives of project management; and e. to have a deeper understanding of main functionalities of project management software, with an enhanced capability to apply computers to creatively solve issues in practice and continually update their knowledge in scope and depth.
Subject Synopsis/ Indicative Syllabus	**Keyword Syllabus**: i) Construction Project Management Systematic approach to project analysis; work breakdown structure; organization breakdown structure; project networking techniques.

	ii) Estimating, Scheduling and Cost Budgeting Parametric estimating; project cost model; detailed estimating and tender preparation; method productivity; Critical Path Method, definition and implication of Total Float; project control; budgeting; cost code; cost control systems; earned value; project finance and cash flow. iii) Advanced Techniques and Risk Analysis Time-cost tradeoff analysis; resource allocation; quality management; Monte-Carlo simulation and applications to estimating and scheduling; Project Evaluation & Review Technique (PERT) for project scheduling; risk and uncertainty factors on construction projects; risk analysis techniques. iv) Contract and Site Administration Project procurement; contract administrative procedures; pre-contract and post contract planning; job evaluation; incentives; industrial relations. v) Construction/building contracts Law of contract; special features; contractual arrangement; common contractual issues; dispute resolutions.
Teaching/Learning Methodology	Lectures will cover the essential, in-depth knowledge and skills of project management and contract administration in relation to practicing civil engineering, helping students to map a complete system of fundamental knowledge on project management, build confidence and foster leadership in driving construction project development. Tutorials will allow students to work out project models of time and cost, brainstorm on practical constraints of technology, resource and working environment, and discuss with the lecturer on application scenarios for topics being addressed in lectures. Individual and group assignments are designed to encourage students to think systematically and critically in dealing with complex problems and making critical decisions in project management. They need to demonstrate versatility and all-roundedness in assessing alternatives, evaluating risks and their effects, and making tradeoff between conflicting objectives of project management. Demo mainstream software for project management in lectures for students to have a deeper understanding of main functionalities of project management software; in handling assignments, computer application components will be designed to enhance students' ability to rely on computer simulations and analyses to facilitate communications, creatively solve issues in practice.

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. Coursework 1	10%	√	√		√	
2. Coursework 2	10%	√		√		
3. Term project	25%		√		√	√
4. Written Examination	55%	√	√	√	√	
Total	100%					

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:

Continuous assessment will be based on two coursework assignments (20%) and one term project (25%).

Written examination is evaluated by final examination.

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.

Reading List and References

<u>Textbook</u>

Ahuja H., Dozzi S.P. and AbouRizk S.M., *Project Management: Techniques in Planning and Controlling Construction Projects*, 2nd Ed. John Wiley, N.Y. (1994).

General Conditions of Contract for Civil Engineering Works, 1999, Hong Kong Government (1999).

Tang, S.L, Ahmad, I.U., Ahmed, S.M., and Lu M. (2004) *Quantitative techniques for decision making in construction*, Construction and Real Estate Series, Hong Kong University Press, Hong Kong.

	Reference Books Hapin D.W. and Woodhead R.W., *Construction Management*, 2nd Ed. John Wiley N.Y. (1998). J. Poole, Textbook on Contract Law, 6th edition, Blackstone Press, 2001. Keating on Building Contracts, Sweet & Maxwell, 7th edition. Levy, S.M. *Project Management in Construction*, 4th Ed. McGraw-Hill, N.Y. (2002). Maylor H., *Project Management*, FT Prentice Hall, N.Y. (2005). R. Duxbury, Nutshells – Contract Law, 6th edition, Sweet & Maxwell, 2003. Smith, S.A. *Introducing Common Law Concepts*, Clifford Chance, T.M.C. Asser Press (2002). **Journals** ASCE Journal of Management in Engineering, ASCE Journal of Construction Management and Engineering **Software Used** Microsoft: (1) Excel (spreadsheet); (2) MS Project