Subject Description Form

Subject Code	BRE350
Subject Title	Project Management and Procurement
Credit Value	3
Level	3
Pre-requisite	None
Objective	1. Extend students' understanding of management principles and develop the knowledge of project management and procurement in the construction industry.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: 1. Apply knowledge of time, cost, quality, safety and environmental management to construction projects. 2. Negotiate and resolve conflicts between management and employees. 3. Communicate with others in a clear and articulated manner. 4. Identify and propose solutions to project management and procurement problems. 5. Identify the different forms of procurement and assess their impacts on the success of a project. 6. Describe the principles underlying the choice of appropriate procurement systems. 7. Apply and compare alternative procurement systems to all types of construction works.
Subject Synopsis / Indicative Syllabus	***Quality, Safety and Environmental Management*** Quality assurance system, safety management system and environmental management. ***Human Resources Management*** Recruitment, selection and engagement of personnel in construction organizations, and industrial relations. ***Planning and Programming Techniques*** Planning and programming techniques including bar chart, critical path analysis and line of balance. ***Construction Procurement*** ● The nature of building process, models of the process. ● Categorization of procurement systems. ● Alternative procurement systems such as traditional sequential, traditional accelerated, competitive design and build, enhanced design and build, novated design and build, management contracting and construction management, guaranteed maximum price and target cost contracting, and public private partnership. ● Choice of appropriate procurement methods, allocation of risks and liabilities of the major parties to the arrangement. ● Relational contracting and its impact on procurement. ● Subcontracting management in construction.
Teaching / Learning Methodology	Lectures will be used to introduce systems and techniques whilst the small group work will be used for the application of management skills through quizzes and project presentation.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						
		1	2	3	4	5	6	7
1. Quizzes	10%	√	√	√		√		
2. Project Report & Presentation	30%	√	√	√	√	√	√	√
3. Examinations: Midterm (30%) and Final (30%)	60%	√	√	√		√	√	√
Total	100 %							

The assessment criterion adopted in tutorial/seminars
("plus" grade for enhanced performance possible for each grade except F)

1. Project Report & Presentation – overall (group) assessment (15%)
   - Oral communication skills: A for excellent, B for good, C for clear, D for barely sufficient, F for poor
   - Data/information collection: A for excellent, B for good, C for adequate, D for barely sufficient, F for poor
   - Data interpretation & analysis: A for excellent, B for good, C for adequate, D for barely sufficient, F for poor
   - Identification of problem/issue: A for excellent, B for good, C for adequate, D for barely sufficient, F for poor
   - Conclusion: A for excellent, B for convincing, C for adequate, D for barely sufficient, F for poor

Student Study Effort Expected

Class contact:	
▪ Lectures	26 Hrs.
▪ Project Seminars/Tutorials	13 Hrs.
Other student study effort:	
▪ Independent study	96 Hrs.
Total student study effort	135 Hrs.

Reading List and References

Recommended Reading List:

Project Management

Chan, A.P.C., Wong, K.W., Li, Y., & Guo, Y.P. (2015) The development of anti-heat stress clothing for construction workers in hot and humid weather, Ergonomics, ISSN: 0014-0319, September, 59(4), pp. 479-495.

Chan, A.P.C., Yang, Y., Wong, F.K.W., Chan, D.W.M., and Lam, E.W.M. (2015). Wearing comfort of construction work uniforms. Construction Innovation: Information, Process, Management, Volume 15, Issue 4, September, pp. 473-492.

Chan, P.C., Wong, K.W., Wong, D., Lam, W.M., and Yi, W., (2012) Determining an Optimal Recovery Time after Exercising to Exhaustion in a Controlled Climatic Environment: Application to Construction Works, *Building and Environment*, Volume 56, pp. 28 - 37.

Chan, P.C., Wong, K.W., Chan, W.M., , Cheung, E., Choy, E., Chung, S.K., Kwok, W.K., Lam, W.M., Lee, W.C., Liu, C.H., Lo, C.H., Siu, K.W., Wong, C.W., & Yam, C.H., (2009) Developing a Prototype for the Rapid Demountable Platform (RDP) – Stage II of CII-HK Research on "Construction Safety Involving Working at Height for Residential Building Repair and Maintenance", Research Summary Report, Construction Industry Institute – Hong Kong, ISBN No. 1978-988-99558-7-8, April, 43pp.

Chan, A.P.C., Wong, F.K.W., Chan, D.W.M., Chan, E.H.W., Cheung, E., Kwok, A.W.K., Lam, E.W.M., Yam, M.C.H. and Yiu, E.C.Y. (2007). *Construction Safety Involving Working at Height for Residential Building Repair and Maintenance*, Summary Report,

Construction Industry Institute – Hong Kong, Research Report No. 9, 52 pages, ISBN 978-988-99558-1-6, November 2007.

Chan A.P.C., Wong F.K.W., Yam M.C.H., Chan D.W.M., Ng J.W.S. and Tam C.M. (2005). *From Attitude to Culture - Effect of Safety Climate on Construction Safety*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-432-5, 160 pages.

Chan P.C., Wong K.W., Lam T.I. and Choi C.W. (2004) *Quality Relationships in Public Housing of Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-426-0, 77 pages.

Harris F. and McCaffer R. (2001) *Modern Construction Managemen*t, 5th Edition, Blackwell Science: Oxford

Hon, C., Chan, P.C., and Wong, K.W., (2010) An Analysis for the Causes of Accidents of Repair, Maintenance, Alteration and Addition Works in Hong Kong, *Safety Science*, Volume 48, Issue 7, August, pp. 894 - 901.

Hon, C.K.H., Chan, A.P.C. and Chan, D.W.M. (2011) Strategies for Improving Safety Performance of Repair, Maintenance, Minor Alteration and Addition (RMAA) Works, *Facilities - Special Issue on Infrastructure Management*, Volume 29, Issue 13/14, pp. 591-610.

Lam T.I., Wong K.W., Chan P.C., Shea C.Y. and Poon C.K. (2004) *Development of a Quality Assessment Mechanism for Private Residential Building Projects in Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-421-X, 69 pages.

Lavender S. (1996) *Management for the Construction Industry*, Longman: UK

Poon, S.W., Tang, S.L., & Wong, K.W. (2008) Management and Economics of Construction Safety in Hong Kong, Hong Kong University Press, June, ISBN No. 978-962-209-906-7, 169pp

Tang S.L., Ahmed S.M., Aoieong R.T. and Poon S.W. (2005) *Construction Quality Management*, Hong Kong University Press: Hong Kong

Tang S.L., Poon C.S., Ahmed S.M. and Wong F.K.W. (2003) *Modern Construction Project Management*, 2nd Edition, Hong Kong University Press: Hong Kong

Walker Anthony (2002) *Project Management in Construction*, 4th Edition, Blackwell Sciences: Oxford

Yam, C.H., Wong, K.W., Chan, P.C., Cheung A.C., Chan, W.M., Chan, W.T., & Chan, H.L. (2007) Safety Considerations for Residential Repair and Maintenance Works on Facades in the Design Phase in Hong Kong, Research Monograph, The Hong Kong Polytechnic University, August, ISBN No. 978-962-367-515-4, 148pp.

Construction Procurement

Chan, APC and Cheung, E (2014) Public Private Partnerships in International Construction: Learning from Case Studies, Routledge, Taylor & Francis Group, London and New York, 190 pages.

Chan, A.P.C., Chan, D.W.M., and Yeung, J.F.Y. (2010) *Relational Contracting for Construction Excellence – Principles, Practices and Case Studies*. Spon Press of Taylor & Francis Group, 1st Edition, ISBN: 978-0-415-46669-1, HD9715.A2C47 2009, 338 pages.

Chan A.P.C. and Chan D.W.M., Editors (2004). *Proceedings of the CII-HK Conference 2004 on Construction Partnering: Our Partnering Journey - Where Are We Now, and Where Are We Heading?,* Construction Industry Institute – Hong Kong, 9 December 2004, Hong Kong, China, ISBN 988-98153-2-X, 206 pages.

Chan A.P.C., Chan D.W.M., Fan L.C.N., Lam P.T.I. and Yeung, J.F.Y. (2004). *A Comparative Study of Project Partnering Practices in Hong Kong*, Summary Report, Construction Industry Institute – Hong Kong, Research Report No. 1, ISBN 988-98153-1-1, 40 pages.

Chan A.P.C., Chan D.W.M., Ho K.S.K., Chiang Y.H., Chan E.H.W. and Tang B.S. (2002) *An Analysis of Project Partnering in Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-363-9, 96 pages.

	Chan A.P.C., Ho D.C.K., and Tam C.M. (2003) *Evaluation of Integrated Procurement Systems in Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-286-1, 75 pages. Chan A.P.C. and Yu A.T.W. (2003) *Construction Process Improvement – A Case Study of the North District Hospital*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-287-X, 63 pages. Chan A.P.C and Yung E.H.K. (2003) *Procurement Selection Model for Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-285-3, 143 pages. Chan, D.W.M., Chan, A.P.C., Lam, P.T.I., Lam, E.W.M. and Wong, J.M.W. (2007). An Investigation of Guaranteed Maximum Price (GMP) and Target Cost Contracting (TCC) Procurement Strategies in Hong Kong Construction Industry, *Research Monograph*, Department of Building and Real Estate, The Hong Kong Polytechnic University, 152 pages, ISBN 978-962-367-593-2, October 2007. Cheung, E., Chan, A.P.C., Lam, P.T.I., Chan, D.W.M. and Ke, Yongjian (2012). A Comparative Study of Critical Success Factors for Public Private Partnerships (PPP) between Mainland China and the Hong Kong Special Administrative Region, *Facilities - Special Issue on Facilities Management Development*, Volume 30, Issue 13/14, October, pp. 647-666. Hong, Y.M., Chan, D.W.M., Chan, A.P.C. and Yeung, J.F.Y. (2012). Critical Analysis of Partnering Research Trend in Construction Journals, *Journal of Management in Engineering*, ASCE, Volume 28, Issue 2, April, pp. 82-95. Masterman J.W.E. (2002) *An Introduction to Building Procurement Systems*, 2nd Edition, E&FN Spon, London. Turner A. (1997) *Building Procurement*, UK MacMillan Halpin, Daniel W. and Bolivar A. Senior (2010). ***Construction Management***. John Wiley & Sons, New York.