

Subject Description Form

Subject Code	BSE5510
Subject Title	Safety Aspects in Construction
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	<ul style="list-style-type: none"> a. To understand regulatory aspects on construction safety and apply safe system of work to ensure safety and health. b. To understand construction safety and the engineering principle for accident prevention in construction sites. c. To understand construction safety technology and hazard control measures for different types of construction operations and environments. d. To acquire knowledge on construction safety management.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ul style="list-style-type: none"> a. have a clear understanding of the regulatory aspects on construction safety and apply safe system of work to ensure safety and health; b. identify and evaluate the construction safety and the engineering principle for accident prevention in construction sites; c. appreciate the construction safety technology and hazard control measures for different types of construction operations and environments; d. acquire knowledge on construction safety management.
Subject Synopsis/ Indicative Syllabus	<p>Regulatory aspects in construction safety: Regulatory aspects in construction safety: Legislation governs safety & health at construction sites; Site-related safety regulations and codes of practice; Safe systems of work.</p> <p>Risk assessment in construction safety: Potential hazards and its control in construction sites; Monitoring and controlling risks, hazard identification and risk assessment methods; Principles of accident prevention in construction sites, developing hazard control measures for different types of construction operations and environment.</p> <p>Construction safety technology and control: Safety of scaffolds, ladders, excavations, structures, and personal fall protection equipment and suspended working platform; Construction safety of confined space; Fire safety and electrical safety fundamentals at construction sites; Safety on handling and use of dangerous substance; Occupational health hazards and personal protective equipment; General construction safety for construction activities, safety of work at height and fall protection; General plant, equipment and machinery safety, safety of lifting appliance & gear; Crane safety and rigging hardware; Safety of scaffolds, ladders, excavation, structure, confined space, and</p>

	<p>personal protective equipment; Fire safety and electrical safety fundamentals at construction site; Safety on handling and use of dangerous substance; Occupational health hazards and personal protective equipment.</p> <p>Construction safety management: Elements of safety management system in construction; Safety planning and control on construction workplaces; Contractor evaluation and selection; Safety & health information and communication in construction workplace; Construction workplace emergencies.</p>																																						
<p>Teaching/Learning Methodology</p>	<ul style="list-style-type: none"> • Lectures/seminars • Student seminars/tutorials 																																						
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1" data-bbox="456 685 1484 1128"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th>a.</th> <th>b.</th> <th>c.</th> <th>d.</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>1. Examination</td> <td>60%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2. Continuous assessment</td> <td>40%</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>100%</td> <td colspan="6"></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>Based on examination mark (60%) and continuous assessment mark (40%). The continuous assessment is made up of course work, seminar and case study.</p> <p>Tutorial Work</p> <p>Tutorial work will mainly focus on problem solving based on examination type questions and practical examples.</p>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a.	b.	c.	d.			1. Examination	60%	✓	✓	✓				2. Continuous assessment	40%	✓	✓		✓			Total	100%						
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<p>Reading List and References</p>	<p>Brauer, R.L. (2016). <i>Safety and Health for Engineers</i>, 3rd Ed., John Wiley & Sons, Inc., Hoboken, NJ, USA.</p> <p>Constructing Better Health. (2008). <i>Occupational Health Standards For the UK Construction Industry</i> (Part One: Fitness for Task) Standards.</p> <p>Davies, V.J. & Tomasin, K. (1996). <i>Construction Safety Handbook</i>, 2nd Ed., Telford, London, UK.</p> <p>Ellis, J.N. (2000). <i>Introduction to Fall Protection</i>, 3rd Ed., American Society of Safety Engineers, Des Plaines, IL, USA.</p> <p>Goetsch, D.L. (2013). <i>Construction Safety and Health</i>, Pearson.</p> <p>Hill, D.C. (2014). <i>Construction Safety Management and Engineering</i>, American Society of Safety Engineers, Des Plaines, IL, USA.</p>																																						

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Holt, St. J.A. (2005). *Principles of Construction Safety*, Wiley-Blackwell, MA, USA.

Hopkin, A. (1995). *Making Safety Work: Getting Management Commitment to Occupational Health and Safety*, Allen & Unwin Pty Ltd., Australia.

Huges, P. & Ferrett, E. (2011). *Introduction to Health and Safety in Construction*, 4th Ed., Routledge.

Li R. Y.M. and Poon S.W. (2013), *Construction Safety*, Springer.

MacCollum, D.V. (2007). *Construction Safety Engineering Principles: Designing and Managing Safer Job Sites*, McGraw-Hill, NY, USA.

Reese, C.D. & Eidson, J.V. (2006). *Handbook of OSHA Construction Safety and Health*, 2nd Ed., CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.

Rowlinson, S. (2003) *Hong Kong Construction – Safety Management and the Law*, 2nd Ed., Sweet & Maxwell Asia, Hong Kong.

Safety and Health Regulations for Construction, [29 CFR 1926], U.S. Department of Labour, Occupational Safety and Health Administration, Washington, DC, USA (current edition).

Spencer Collins. (2000). *Excavators – Safe Operation in Canal Restoration, Practical Restoration Handbook*, Inland Waterways Association.

The Real Estate Developers Association of Hong Kong and The Hong Kong Construction Association (2005), *Construction Site Safety Handbook*.

International and local standards, guidance notes and codes of practices for relevant safety aspects in construction, such as earth-moving machinery, hydraulic excavators, safe use of excavators, lifting appliances and lifting gears, fire safety at workplaces, use of personal protective equipment etc., the latest edition.