

Subject Description Form

Subject Code	BSE559
Subject Title	Safety Management Systems and Safety Auditing
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	<ul style="list-style-type: none"> • To understand the concepts of safety management system. • To understand the system elements of the safety management system. • To acquire knowledge on compliance/regulatory aspects on Safety Management System. • To provide a comprehensive review of safety audits, their application and the auditing processes.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a. have a clear understanding of the concepts of safety management system; b. identify and evaluate system elements of the safety management system; c. acquire knowledge on compliance/regulatory aspects on Safety Management System; d. conduct a comprehensive review of safety audits, their application and the auditing processes.
Subject Synopsis/ Indicative Syllabus	<p>Safety management system: History and growth of safety & health at work, development of safety programs, procedures for minimizing risk and maximizing safety and health; Hong Kong and overseas safety legislation, legal aspects applicable to the safety management system; Concepts of safety management system, policy objectives, targets, implementation and documentation; Hazard management program; Hierarchy of controls and engineering control methods.</p> <p>System elements of safety management system: Introduction to elements of safety management systems; Implementation of the system elements; Effective emergency preparedness; Reporting workplace accidents; Investigation of accidents/incidents to prevent recurrence; Accidents/incidents statistical analysis; Contractor evaluation, selection and control strategy; Develop and run safety committee; Evaluation of job-related hazards; Safety procedures development; Safety and health awareness program; Establishing and implementing safety performance indicators for health and safety program improvement; Effectiveness of safety management system.</p> <p>Safety compliance standards: Standardization of Safety & Health Regulations and legal aspects applicable to the safety management system, practice of safety and health etc.; Emphasizes legal standardization; Overseas (USA, European and UK) and Hong Kong safety legislation, major safety and health legislation controls with an emphasis on the local Safety and Health Ordinance; Analysis of the major physical hazards and safety practices to eliminate the hazardous condition or minimize injury.</p>

	<p>Safety auditing: An introduction to theory and practice of Safety Audits; Audit protocol and definitions; Safety auditing processes, procedures and scheduling; Safety Auditing Program, pre-audit and post-audit activities; Evaluation and reporting of audit findings; Documentation of safety audit; Introduction on using microcomputers in occupational safety and health; Instruction in techniques used for data processing, statistical analysis, interfacing with instrumentation and linking with mini- and main-frame computers.</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"> <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%						
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%																																												
<p>Reading List and References</p>	<p>AS 3745-2010 Planning for Emergencies in Facilities, Standards Australia.</p> <p>AS/NZS ISO 31000:2009, Risk Management – Principles and guidelines (2009). <i>Australian/New Zealand Standard on Risk Management</i>, Australia.</p> <p>AS/NZS 4801:2001 <i>Occupational health and safety management systems – Specification with guidance for use.</i></p> <p>AS/NZS 4804: 2001 <i>Occupational health and safety management systems – General guidelines on principles, systems and supporting techniques.</i></p> <p>Asfahl, C.R. and Rieske D.W. (2010). <i>Industrial Safety and Health Management</i>, 6th Ed., Pearson Education, Inc., Upper Saddle River, NJ, USA.</p> <p>Bahr, N.J. (2014). <i>System Safety Engineering and Risk Assessment: A Practical Approach</i>, 2nd Ed., CRC Press.</p> <p>BS OHSAS 18001:2007 <i>Occupational health and safety management systems – Requirements.</i></p> <p>BS OHSAS 18002:2008 <i>Occupational health and safety management systems – Guidelines for the implementation of OHSAS 18001:2007.</i></p> <p>BS8800:1996 (1996). <i>Guide to Occupational Health and Safety Management Systems</i>, British Standards Institution, UK.</p> <p>BS8800:2004 <i>Occupational health and safety management systems — Guide.</i></p> <p>Hopkin, A. (1995). <i>Making Safety Work: Getting Management Commitment to Occupational Health and Safety</i>, Allen & Unwin Pty Ltd., Australia.</p>																																												

HB211 – 2001 *Occupational health and safety management systems – A guide to AS 4801 for small business*.

HSE (2004). *Investigating accidents and incidents, HSG245*, UK.

HSE (2013). *Managing for health and safety, HSG65*, HMSO, Norwich.

International Scientific Researchers, *Health and Safety Management Systems - An Analysis of System Types and Effectiveness, International Advances in Engineering and Technology (IAET), Vol. 20, August (2013)*.

Kase, D.W. & Wiese, K.J. (1990). *Safety Auditing: A Management Tool*, Van Nostrand Reinhold, New York, NY, USA.

Labour Department. (2002). *Code of Practice on Safety Management, Hong Kong*.

Management of Health and Safety at Work Regulations (1999). Health and Safety Executive, UK.

Manuele, F.A. (2013). *On the Practice of Safety*, 4th Ed., John Wiley & Sons, Inc., 605 3rd Ave., New York, NY 10158-0012, USA.

MIL-STD-882E. (2012). *Standard Practice for System Safety*, Department of Defense, USA.

NOHSC. (2001). *OHS Management Systems: A Review of Their Effectiveness in Securing Healthy & Safe Workplaces*, Australia.

OSHA Regulations (Standards – 29CFR). (1993). *Compliance Guidelines and Recommendations for Process Safety Management – 1926.64 App C*, Occupational Safety and Health Administration, USA.

Petersen, D. (1996). *Analyzing Safety System Effectiveness*, 3rd Ed., Van Nostrand Reinhold, New York, NY, USA.

Petersen, D. (1996). *Safety by Objectives*, 2nd Ed., John Wiley & Sons, Inc., 605 3rd Ave., New York, NY 10158-0012, USA.

Raouf, A. & Dhillon, B.S. (1994). *Safety Assessment: A Quantitative Approach*, CRC Press/Lewis Publishers, 2000 Corporate Blvd, N.W., Boca Raton, FL, USA.

Successful Implementation of Works Bureau and Housing Authority Health and Safety Management Systems. (1998). Occupational Safety and Health Council, HKSAR.

Waring, A. (1996). *Safety Management Systems*, 1st Ed., Chapman & Hall, London, UK.