

Subject Description Form

Subject Code	CSE539
Subject Title	Environmental Management Systems and Audit
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	<u>Mutual exclusions:</u> Environmental Planning and Management (CSE524)
Objectives	<p>To provide students with an overview and practical skills related Environmental Management System (EMS) and the implementation process, particularly on the ISO14001 EMS standard.</p> <p>To introduce environmental auditing principles to students; to develop the practical skills of conducting various environmental audits.</p>
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able:</p> <ol style="list-style-type: none"> to understand the needs for environmental management systems; to analyse corporate environmental issues, and develop implementation plan of appropriate EMS; to help reviewing the EMS running and improving its performance; to understand the various environmental audits and auditing processes; and to conduct basic environmental audit.
Subject Synopsis/ Indicative Syllabus	<p><u>Keyword Syllabus</u></p> <ol style="list-style-type: none"> <u>Environmental Objectives, Environmental Policy and Legislation</u> Environmental policy and regulation; sustainable development; economical incentives in corporation environmental management. <u>Environmental Management System</u> Corporate environmental programme; development of environmental management system (EMS); global environmental reporting.

	<p>iii) <u>Environmental Management System Standard (ISO14000)</u></p> <p>Structure of ISO14000; ISO14001 EMS; Life cycle analysis; Environmental labelling.</p> <p>iv) <u>Implementing EMS</u></p> <p>Environmental effects and environmental targets; environmental management plan; environmental manual and documentation, and EMS audit.</p> <p>v) <u>Environmental Audit</u></p> <p>Different types of environment audits; audit programme planning; audit protocol.</p> <p>vi) <u>Environmental Audit Process</u></p> <p>The pre-audit phase; on-site activities; audit report and follow up action plans.</p>																																	
Teaching/Learning Methodology	<p>The subject teaching will include the following elements:</p> <p>a. Lectures – to introduce the basic concepts of EMS and environmental audits;</p> <p>b. Tutorials – to answer student questions in the learning processes;</p> <p>c. Group discussion and presentations – to let students working together with a case study;</p> <p>d. Reading materials and video presentations – to give students practical examples on EMS and audit;</p> <p>e. Seminars on EMS and/or environmental audit by invited speakers from corporate environmental directors and managers; and</p> <p>f. Course work and term project (individual cases study) on EMS or environmental audit.</p>																																	
Assessment Methods in Alignment with Intended Learning Outcomes	<table><tr><th rowspan="2">Specific assessment methods/tasks</th><th rowspan="2">% weighting</th><th colspan="5">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>e.</th></tr><tr><td>1. Continuous Assessment</td><td>50%</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td></tr><tr><td>2. Written Examination</td><td>50%</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td></tr><tr><td>Total</td><td>100%</td><td colspan="5"></td></tr></table>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					a.	b.	c.	d.	e.	1. Continuous Assessment	50%	√	√	√	√	√	2. Written Examination	50%	√	√	√	√	√	Total	100%					
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	<p>Written examination is evaluated by final examination.</p> <p>Students must pass the final examination and achieve a passing overall score / grade to pass the subject.</p>
Reading List and References	<p>Christopher Sheldon, 2002. <i>Installing Environmental Management Systems: A Step-by-step Guide</i>. Earthscan, London.</p> <p>David Nelson, 1998. <i>International Environmental Auditing</i>. Government Institutes, Rockville, MD. USA.</p> <p>Gayle Woodside, 2002. <i>ISO 14001 Auditing Manual</i>. McGraw-Hill, New York.</p> <p>Jacob Bregman, 2002. <i>Environmental Compliance Handbook</i>. Lewis Publishers, Boca Raton, Fla.USA.</p> <p>John Kinsella, 1999. <i>Handbook for Implementing An ISO 14001 Environmental Management System: A Practical Approach</i>. EMCON, Bothell, WA. USA.</p>