

### Subject Description Form

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

	<p>iii) <u>Environmental Management System Standard (ISO14000)</u> Structure of ISO14000; ISO14001 EMS; Life cycle analysis; Environmental labelling.</p> <p>iv) <u>Implementing EMS</u> Environmental effects and environmental targets; environmental management plan; environmental manual and documentation, and EMS audit.</p> <p>v) <u>Environmental Audit</u> Different types of environment audits; audit programme planning; audit protocol.</p> <p>vi) <u>Environmental Audit Process</u> The pre-audit phase; on-site activities; audit report and follow up action plans.</p>																																	
<p><b>Teaching/Learning Methodology</b></p>	<p>The subject teaching will include the following elements:</p> <ol style="list-style-type: none"> <li>Lectures – to introduce the basic concepts of EMS and environmental audits;</li> <li>Tutorials – to answer student questions in the learning processes;</li> <li>Group discussion and presentations – to let students working together with a case study;</li> <li>Reading materials and video presentations – to give students practical examples on EMS and audit;</li> <li>Seminars on EMS and/or environmental audit by invited speakers from corporate environmental directors and managers; and</li> <li>Course work and term project (individual cases study) on EMS or environmental audit.</li> </ol>																																	
<p><b>Assessment Methods in Alignment with Intended Learning Outcomes</b></p>	<table border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </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><b>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.</b></p>
<p><b>Reading List and References</b></p>	<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>