

Subject Description Form

Subject Code	CSE40467
Subject Title	Environmental Management Systems
Credit Value	3
Level	4
Exclusion	CSE467 Environmental Management Systems
Objectives	To provide students with an overview of corporate environmental management, and Environmental Management System (EMS), particularly the ISO14001 standards; and To provide students with practical tools for corporate carbon management and business strategy for a net zero transition.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: <ul style="list-style-type: none"> a. understand the needs for environmental management in an organization; b. analyse corporate environmental issues, and develop the implementation plan of an appropriate EMS; c. understand the concepts of carbon footprint and climate change; d. master the practical skills of carbon measurement and reporting; and e. be able to deliver a typical carbon management project in a real business environment.
Subject Synopsis/ Indicative Syllabus	<ol style="list-style-type: none"> 1. <u>Environmental Legislation</u> and Organization Policy Environmental policy and regulation; sustainable development; economical incentives in corporation environmental management. 2. <u>Environmental Management System</u> Corporate environmental programme; development of environmental management system (EMS); global environmental reporting. 3. <u>Environmental Management System Standard (ISO14000)</u> Structure of ISO14000; ISO14001 EMS; life cycle analysis (LCA); and environmental labeling.

	<p>4. Implementation of an <u>EMS</u> Environmental effects and environmental targets; environmental management plan; environmental manual and documentation; EMS audit; and management review.</p> <p>5. GHG inventory and carbon audit Carbon footprint concept; definition of the boundaries; emission quantification; baseline and base year; reporting tools.</p> <p>6. Carbon management framework Carbon management concepts; carbon trading and offsetting; corporate net zero strategy and case studies.</p>																		
<p>Teaching/Learning Methodology</p>	<p>The subject teaching will include the following elements:</p> <p>(a) Lectures – to introduce the basic concepts of EMS, environmental management process, and analytical skills and carbon measurement and reporting tools;</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;</p> <p>(e) Seminars on EMS by invited speakers from corporate environmental directors and managers; and</p> <p>(f) Course work on EMS and mini carbon audit.</p>																		
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1" data-bbox="561 1400 1502 1627"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="2">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>1. Continuous Assessment</td> <td>50</td> <td>√</td> <td>√</td> </tr> <tr> <td>2. Final Examination</td> <td>50</td> <td>√</td> <td>√</td> </tr> <tr> <td>Total</td> <td>100</td> <td></td> <td></td> </tr> </tbody> </table> <p>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.</p>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed		a	b	1. Continuous Assessment	50	√	√	2. Final Examination	50	√	√	Total	100		
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<p>Student Study Effort Expected</p>	<table border="1" data-bbox="561 1780 1502 1906"> <tr> <td>Class contact:</td> <td>Average number of hours used per week</td> </tr> <tr> <td>▪ Lectures</td> <td>2 Hrs.</td> </tr> </table>	Class contact:	Average number of hours used per week	▪ Lectures	2 Hrs.														
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	<ul style="list-style-type: none"> ▪ Tutorials/Group discussion 	1 Hr.
	Other student study effort:	
	<ul style="list-style-type: none"> ▪ Reading/case/study/reports 	1.4 Hrs.
	<ul style="list-style-type: none"> ▪ Self Study 	4.6 Hrs.
	Total student study effort	9 Hrs.
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> <p>ISO 14064-1: 2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals</p> <p>GHG Protocol 2010 <i>The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard</i>.</p> <p>Shelley Zhou, 2020. <i>Carbon Management for a Sustainable Environment</i>. Springer Nature.</p>	