

Semester:	5		
Course Code:	ENCM 31742		
Course Name:	Environmental Management Systems and Standards		
Credit Value:	02		
Status:	Compulsory for BSc in ENCM degree Optional for BSc Honours in ENCM degree		
Pre-requisite:	ENCM 12752		
Co-requisite:	None		
Hourly Breakdown:	Theory	Practical	Independent Learning
	26	12	62
Intended Learning Outcomes:			
After completion of this course unit, the student will be able to;			
<ol style="list-style-type: none"> 1. critically discuss the relation between corporations/organizations and a sustainable society, 2. demonstrate knowledge of Environmental Management Systems (EMS) and their main steps, relevant policies, other environmental management tools, 3. demonstrate ability to collect, record, process and interpret data relevant to EMS using different qualitative and quantitative techniques, 4. discuss and assess different environmental management standards: ISO 14001 and Eco Monitoring Audit System (EMAS), 5. communicate effectively in several forms (e.g. written, graphical and verbal) and produce detailed and coherent project reports. 			
Course Content:			
<p>Corporations/organizations and environmental sustainability, Factors driving environmental initiatives in organizations; Brief history of environmental management theories/approaches; Overview of environmental management; ISO 14001 Management systems standards; Continual improvement based on the PDCA cycle; Risk-based thinking, Intended outcomes of an EMS, Compatibility with other management system standards (EMAS), Additional requirements EMAS; Basic principles of ISO 14001 (Latest version); Scope of ISO 14001, Application of ISO 14001, Environmental policy, organizational roles, responsibilities and authorities, Significant environmental aspects, Compliance obligations; Planning action, Environmental objectives, Resources, Competence, Awareness, Communication, Documented information; Operational planning and control, Emergency response; Performance evaluation, Monitoring, measurement, analysis and evaluation, Evaluation of compliance, Internal audit, Management review, Improvement, Nonconformity and corrective action, Continual improvement; Other ISO standards related to environment, ISO 50001; Introduction to LCA methods and standards, – Elements of LCA, The LCA framework: Goal and scope definition, inventory analysis, impact assessment, and interpretation; Environmental indicators, data and tools, interpreting results, Life Cycle Costing – Eco Labelling.</p>			
Teaching /Learning Methods:			
A combination of lectures, industrial visits, audio-visual programmes, computer based learning and group presentations.			
Assessment Strategy:			
Continuous assessment and end of semester examination. Percentage given for each sub-component indicates the percent contribution to the final marks.			

Continuous Assessment 40 %		Final Assessment 60 %		
Details:		Theory	Practical	Other
Quizzes	10	60	-	-
Assignments	10			
Industrial visit/Reports	10			
Presentations	10			
Recommended Readings:				
<ol style="list-style-type: none"> 1. Garry, C. (2017). The ISO 14001:2015 Companion, Advisera Expert Solutions Ltd. 2. Suzan, L. J. (2016). The ISO 14001 Implementation Guide: Creating an Integrated Management System (Wiley Series in Environmental Quality Management Book 3) 1st Edition, Kindle Edition. 3. Scott, S. O. (2020). International Environmental Standards Handbook, CRC Press. 4. Subramanian, S. M. (2015), Handbook of Life Cycle Assessment (LCA) of Textiles and Clothing, 1st Edition, Woodhead Publishing. 5. Walter, K. & Birgit, G. (2014). Life Cycle Assessment (LCA): A Guide to Best Practice. Wiley-VCH Verlag GmbH & Co. KGaA. 				