

Revised Curriculum – ENCM 31742

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
<p>Intended Learning Outcomes:</p> <p>After completion of this course unit, the student will be able to;</p> <ol style="list-style-type: none"> critically discuss the relation between corporations/organizations and a sustainable society, demonstrate knowledge of Environmental Management Systems (EMS) and their main steps, relevant policies, other environmental management tools, demonstrate ability to collect, record, process and interpret data relevant to EMS using different qualitative and quantitative techniques, discuss and assess different environmental management standards: ISO 14001 and Eco Monitoring Audit System (EMAS), and demonstrate skills in using the PDCA cycle and total quality management (TQM) concepts to solve industry-related environmental challenges. 			
<p>Course Content:</p> <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, Introduction to ISO 50000 and ISO 9000; Use of PDCA cycle in continual improvement and to improve total productivity, Introduction to total quality management (TQM) and concepts such as Poka Yoke, Hoshin Kanri, and Kaizen and Six Sigma,</p>			

Differences in western and Japanese concepts in TQM, Use of TQM in improving the environmental performance of an organization.			
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: Quizzes 10 Assignments 10 Industrial visit/Reports 10 Presentations 10		Theory 60	Practical - Other -
Recommended Readings: 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 1st Edition, Kindle Edition. 3. Scott, S. O. (2020). International Environmental Standards Handbook, CRC Press. 4. Mandal, S. K. (2016). Total Quality Management - Principles and Practice, Vikas Publishing, New Delhi-110044, India. 5. Kiran, D.R. (2016). Total Quality Management, Butterworth-Heinemann, AZ.			