ZMGT H4101: Enviro Mgt and Ind Mgt Systems

Module Title:	Environmental Management and Industrial Management Systems
Language of Instruction:	English

Credits:	10

NFQ Level:	8

Module Delivered In	No Programmes

Teaching & Learning Strategies:	Section A of this module will be taught in lectures of one hour duration two times per week for 30 weeks (60hrs). Section B will be taught in lectures of one hour duration, once per week for 30 weeks (30hrs). Classes may take the form of formal lectures or tutorial-type sessions. A range of teaching techniques will be used as appropriate, including discussion of case studies, worksheets, PowerPoint and other presentations. Students will be encouraged to learn through questioning and group discussions. Enquiry driven learning will be encouraged through having additional resources (reports/information/videos) on Blackboard.

Module Aim:	The aim of this module is to give the student an overview of legislation and management aspects of environment-related activities. To give the student an introduction to the main safety issues in the workplace.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Evaluate and discuss current issues in the natural environment in Ireland and globally.
LO2	Discuss the process of impact assessment for specified developments.
LO3	Identify the necessary elements of an industrial or waste licence to ensure compliance.
LO4	Interpret technical reports and guidance documents.
LO5	Integrate environmental aspects of an industrial activity into an overall management system.
LO6	Discuss the main provisions of the Health, Safety and Welfare Act, 2005.
LO7	Apply the risk assessment process.
LO8	Explain the procedures and relevance of accident investigation and reporting.
LO9	Communicate in an effective and professional manner both in written and oral format

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
The Natural Environment Ecosystems. Ecosystem functions, Natural capital, Depleting natural resources, Earth equivalence, Environmental degradation, Sustainable development, Circular Economy.
Water Quality Surface waters/Groundwater/aquifers, Water Framework Directive. Drinking water (Public, group, private supplies), legislation. Industrial and urban waste water: types, treatment, discharge licences and legislation, river and lake assimulative capacity, Responsibilities of EPA, local authorities.
Pollution Classes of pollution, Chemical (organic - PAHs/PCBs/Dioxins/VOCs/Biocides/Pharmaceuticals, inorganic - nutrients (N-P)/heavy metals), biological (bacteria/viruses/protozoa), physical (light/thermal) Rio de Janeiro Earth Summit 1992. Global warming.
Environmental Liability Directive Provisions, 'Polluter Pays' principle, Precautionary principle. The Pollution Linkage concept.
Industrial Emissions Directive Provisions, IPPC licences, IPPC application process/information, Best Available Technique (BAT), BREF documents, Emission Limit Values (ELV). IPPC cases studies (Food and Pharmaceutical industry).
Environmental Impact Assessment Methodology of EIA/EIS. Regulations. Case studies on major projects. Sustainable development. Public consultation.
Energy Fossils fuels, environmental impacts (extraction-processing), effects of combustion - atmosphere, GHG-particulate matter, carbon footprint, renewable energy (environmental impacts of solar, hydroelectric, wind, biofuel), Kyoto. Paris 2015. Energy audits.
Waste Management Waste production statistics, the Waste management heirachy (prevent, reduce, reuse, recycle), Environmental impacts of landfill (odous/leachate/pests/visual), Landfill Directive, Environmental impacts of incineration (technology/dioxins/GHG) Reporting, compliance, Biogradable waste treatment, composting, anaerobic digestion. Other waste legislation (WEE, VoU.).
Environmental Management Systems in Industry EMS: Componients and implimentation. Environmental quality standards (ISO 14001:2015, Environmental management and audit scheme (EMAS). Legal and other requirements. Evaluation of compliance. Auditing. Eco-labelling.
Health and Safety Legislation: Common law and statute law, criminal law and civil law, European law. Health, Safety and Welfare Act, 2005; scope of the Act, duties of employers, employees and providers, the Safety statement, hazard identification and risk assessment
Hazardous Chemicals Toxicity, routes of exposure, Classification of Hazardous Chemicals, Chemical Regulations, Material Safety Data Sheets.
Biological Hazards: Classification of biological hazards, occupational diseases (zoonosis).
Health Hazards Noise Induced Hearing Loss, Musculoskeletal Diseases, Asthma, Dermatitis, Stress and Bullying in the workplace
Hazard Management Occupational Exposure Levels; TWA, STEL, TLV, OES Engineering and other controls of airborne contaminants. Use and limitations of Personal Protection Equipment. Health Surveillance.
Display Screen Equipment Ergonomics, VDU regulations, health effects, adapting the workstation to minimise adverse effects.
Accidents Distribution and cause of accidents in different workplaces, accident investigation, accident reporting.

Assessment Breakdown	%
Continuous Assessment	30.00%
End of Module Formal Examination	70.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Other	A mixture of end of term exams, group presentations and submitted reports/assays.	1,2,3,4,5,6,7,8,9	30.00	n/a

No Project

No Practical

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	No Description	1,2,3,4,5,6,7,8	70.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	30 Weeks per Stage	3.00
Estimated Learner Hours	30 Weeks per Stage	2.00
	Total Hours	150.00