ENVI H3101: Environmental Management

Module Title:	Environmental Management
Language of Instruction:	English

Credits:	5

NFQ Level:	7

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	This module will be delivered as 60 hours of lecture. Classes may take the form of formal lectures or tutorial-type session. As range of techniques will be sued as appropriate, including discussion of case studies, work sheets and presentations.

Module Aim:	The aim of this module is to give the student an overview of legislation and management aspects of environment-related activities in the brewing and distilling industries

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, and those specifically related to the brewing and distilling industries
LO2	Discuss the process of impact assessment for specified developments
LO3	Identify the necessary elements of an industrial or waste licence to ensure complicance
LO4	Interpret technical reports and guidance documents
LO5	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 Emisions 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.

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*
Case Studies	Case study report	1,2,3,4,5	15.00	n/a
Presentation	Presentation on brewing/distilling waste management	1,2,3,4,5	15.00	n/a

No Project

No Practical

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	End of year exam	1,2,3,4	70.00	End-of-Semester

ITCarlow 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	2.00
	Total Hours	60.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_SABRE_B	Bachelor of Science (Honours) in Brewing and Distilling	3	Mandatory