

## AGRI S6013: Machine and Process Safety

Module Details	
Module Code:	AGRI S6013
Full Title:	Machine and Process Safety <b>APPROVED</b>
Valid From::	Semester 1 - 2019/20 ( June 2019 )
Language of Instruction:	English
Duration:	1 Semester
Credits::	5
Module Owner::	Siobhan Jordan
Departments:	Unknown
Module Description:	The aim of this module is to provide the learner with the knowledge necessary to assess and advise on machine and process safety in the manufacturing industry.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	Module Learning Outcome Description
MLO1	Describe the health and safety requirements specific to machine and process safety.
MLO2	Discuss the principles of safety integration, auditing and safety checks.
MLO3	Evaluate the functional safety of control systems and protection against mechanical hazards.
MLO4	Compare and contrast the various machine maintenance procedures in manufacturing settings.
Pre-requisite learning	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
No recommendations listed	

Module Indicative Content
<b>Introduction to machinery Health and Safety requirements</b> Essential health and safety requirements relating to the design and construction of machinery and CE marking. General duties of manufacturer or authorised representative as regards products; Safety components and assembly instructions for partly completed machinery. Standard Operating Procedures; Safety Data Sheets; hazard communication standards, accidental release measures, first-aid measures; handling and storage of chemicals and exposure controls.
<b>Audits and safety checks</b> Assessment of conformity with internal checks on the manufacture of machinery.
<b>Principles of safety integration</b> The 3-step method; Preventing abnormal use; PPE; Handling of machinery and parts of machinery; Ergonomic principles; Operating positions in hazardous environments
<b>Control systems and protection against mechanical hazards</b> Functional Safety of Control Systems; Required characteristics of guards and protective devices; Risks due to other hazards; Hazards due to machinery mobility.
<b>Machine Maintenance</b> Access to operating positions and servicing points; Isolation of energy sources and electrical safety; Operator intervention; Cleaning of internal parts.
<b>Health and safety requirements for specific categories</b> Hygiene requirements for machinery intended for use with foodstuffs or with cosmetics or pharmaceutical products; Supplementary requirements for portable hand-held and handguided machinery; Declaration of vibrations transmitted by portable hand-held and hand-guided machinery; Portable fixing and other impact machinery

Module Assessment	
Assessment Breakdown	%
Course Work	100.00%
Module Special Regulation	

## Assessments

Part Time On Campus			
Course Work			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	50
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	1,2,3,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> CA assignment on an assessment of maintainance and process safety procedures in a manufacturing industry.			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	50
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	n/a	<b>Learning Outcome</b>	1,2,3,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Online Quizes throughout the semester			
No Project			
No Practical			
No Final Examination			

## Module Workload

This module has no Full Time On Campus workload.

### Workload: Part Time On Campus

Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	Face to Face (2 hours twice per semester)	Twice per semester	0.27	2
Online Contact	Contact	Online lectures, case studies, quizzes, discussion groups, supplementary reading	Every Week	2.00	2
Independent Study	Non Contact	No Description	Every Week	1.00	1
				Total Weekly Learner Workload	3.27
				Total Weekly Contact Hours	2.27

Module Resources
<i>Recommended Book Resources</i>
Jespen, Torben. (2016), Risk Assessments and Safe Machinery: Ensuring Compliance with the EU Directives, Springer.
<i>This module does not have any article/paper resources</i>
<i>Other Resources</i>
EC Directive, EC, 2010. Guide to application of the Machinery Directive 2006/42/EC. S.I. No. 407/2008, S.I. No. 407/2008 - European Communities (Machinery) Regulations 2008.