



Title:	Industrial Services APPROVED
Long Title:	Industrial Services
Module Code:	CRAF6017
Duration:	1 Semester
Credits:	5
NFQ Level:	Fundamental
Field of Study:	Craft
Valid From:	Semester 1 - 2013/14 (September 2013)
Module Delivered in	2 programme(s)
Module Coordinator:	MICHAEL HOURIHAN
Module Author:	Noel JBarry
Module Description:	This module is designed to introduce the student to the installation and operating principles of steam systems, compressed air systems, medical/industrial gases and vacuum systems. It describes the operation of selected pieces of plant such as boilers, compressors, gas distribution, high and low pressure steam plants, safety, hazards and components.
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Describe the operating principles of a range of industrial service systems.
LO2	Identify and apply safe working procedures on industrial systems.
LO3	List the critical components used on steam systems, compressed air systems, medical/industrial gases and vacuum systems.
LO4	Identify colour coding of pipework on various industrial systems.
LO5	Describe the safety and environmental requirements for industrial service elements.
Pre-requisite learning	
Module Recommendations	
<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 MTU 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>	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Steam systems

Describe the principles, applications and components of steam systems. Describe the purpose of condensate return, trapping sets. The use for steam in industry and safe working procedures.

Compressed air.

Describe the principles, applications and components of compressed air systems, types of pipe material and fastenings.

Medical gases.

Identification of medical gases, chemical symbols, colour codes, dangers associated with medical gases, pipelines and components.

Vacuum Systems.

List the principles and applications of vacuum installations e.g. vacuum pumps, pipelines, materials, fittings and regulators.

Industrial gases

Identification of industrial gases and pressure hazards ie. argon, carbon dioxide, helium and nitrogen. Safety regulations associated with industrial gases.

Assessment Breakdown

	%
Course Work	40.00%
End of Module Formal Examination	60.00%

Course Work

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Written Report	Pipework identification.	4	20.0	Week 4
Essay	Medical/industrial gases and vacuum systems	3	20.0	Week 8

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	End-of-Semester Final Examination	1,2,3,4,5	60.0	End-of-Semester

Reassessment Requirement

Repeat examination

Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

The institute reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Theory	4.0	Every Week	4.00
Independent & Directed Learning (Non-contact)	Study	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

Workload: Part Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Theory	4.0	Every Week	4.00
Independent & Directed Learning (Non-contact)	Study	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

Module Resources
<i>Recommended Book Resources</i>
• Edwin M. Talbott 2009, <i>Compressed air systems</i> [ISBN: 0881731455]
<i>This module does not have any article/paper resources</i>
<i>Other Resources</i>
• http://www.spiraxsarco.com/ie/ : n/a • http:// medicalgasinfo.com : n/a

Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_ECTMS_7	<u>Bachelor of Science in Craft Technology - Mechanical Services</u>	2	Mandatory
CR_EMSTE_6	<u>Certificate in Mechanical Services Technology</u>	2	Mandatory