



<b>Title:</b>	KNX Technology <b>APPROVED</b>
<b>Long Title:</b>	KNX Technology
<b>Module Code:</b>	CRAF7015
<b>Credits:</b>	5
<b>NFQ Level:</b>	Intermediate
<b>Field of Study:</b>	Craft
<b>Valid From:</b>	Semester 1 - 2014/15 ( September 2014 )
<b>Module Delivered in</b>	<a href="#">2 programme(s)</a>
<b>Module Coordinator:</b>	MICHAEL HOURIHAN
<b>Module Author:</b>	MICHAEL HOURIHAN
<b>Module Description:</b>	The aim of this module is to provide personnel with an electrical background, the theoretical and practical knowledge and competencies required to install, program and commission a KNX installation.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Describe Twisted Pair, Radio Frequency and IP system architectures and assess their usefulness in given applications.
LO2	Design an efficient KNX installation and programme the relevant equipment to yield the required functionality.
LO3	Incorporate all relevant considerations in delivering a KNX installation.
LO4	Develop the strategies required for the purposes of testing and commissioning a KNX installation.
LO5	Identify and consider the influencing factors that the KNX system would have on an electrical installation with specific reference to the relevant ETCI regulations.
<b>Pre-requisite learning</b>	
<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 CIT 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	
<b>Incompatible Modules</b>	
<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	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b>	
<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	
<b>Co-requisites</b>	
No Co Requisites listed	

**Module Content & Assessment**

**Indicative Content**

**Installation**

Safety extra low voltage networks, types of bus cable, installation of cables, bus devices, power supply units, installation of bus devices, bus connection blocks, lightening protection measures, overvoltage arresters, checking the installation, ETCI regulations.

**System design**

Overall view of topology including area, multiple areas, individual address, connecting several lines, line telegram, internal and external interfaces, IP network.

**Bus devices**

Internal structure of bus coupling device, application modules, dimming and drive control

**Telegram**

The structure, time requirement and acknowledgement of a telegram.

**Communication**

Overview of operation, individual address, group address, group object, bit structure, connection of power supply unit to bus, cable lengths

**Project design software**

Overview and concepts of the software and system requirements. The principles of project design, creating a new project, opening existing projects, project details, device parameters, configuring and assignment of group addresses, checking the project, project documentation

**Diagnostics**

Fault location, device information, monitoring, checking the project

**Commissioning**

General requirements needed for commissioning and resetting devices.

**Assessment Breakdown**

%

Course Work

100.00%

**Course Work**

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	KNX programming in lab.	2,3	50.0	Every Week
Project	Design a program based solution to a given problem - given in week 2	2,3,4	25.0	Sem End
Short Answer Questions	n/a	1,5	25.0	Week 10

No End of Module Formal Examination

**Reassessment Requirement**

**Coursework Only**

*This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.*

**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>
Independent & Directed Learning (Non-contact)	Autonomous student learning	4.0	Every Week	4.00
Lab	Practical programming	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				3.00

**Workload: Part Time**

<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Independent & Directed Learning (Non-contact)	Autonomous student learning	4.0	Every Week	4.00
Lab	Practical programming	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				3.00

Module Resources
<i>Recommended Book Resources</i>
• <b>Electro-Technical Council of Ireland 2008, <i>National Rules for Electrical Installations</i>, Fourth Edition Ed., Electro-Technical Council of Ireland</b>
<i>Supplementary Book Resources</i>
• <b>KNX Association 2006, <i>Handbook for Home and Building Control</i>, Fifth Edition Ed., ZVEI Frankfurt</b>
<i>This module does not have any article/paper resources</i>
<i>Other Resources</i>
• <b>www.knx.org: n/a</b>

Module Delivered in			
Programme Code	Programme	Semester	Delivery
CR_EEPSY_8	<a href="#"><u>Bachelor of Engineering (Honours) in Electrical Engineering</u></a>	5	Elective
CR_EELEC_7	<a href="#"><u>Bachelor of Engineering in Electrical Engineering</u></a>	5	Elective