



Efficiency Energy  
Training at  
City College  
Plymouth



FINALIST - Building Controls Industry Association (BICA) Awards, Contribution to Training  
FINALIST - KNX UK Awards, Contribution to Training

A **GOOD** college with **OUTSTANDING** features  
Ofsted 2012



If you would find it easier to read this guide in larger type or a different format, please call 01752 305300 or e-mail [info@cityplym.ac.uk](mailto:info@cityplym.ac.uk).



## City College Plymouth

**The place to come for education and training that works!**

City College Plymouth is the only centre in the south of England to be accredited and approved to run KNX courses, in association with ABB and the City & Guilds of London Institute.

**Please note: whilst every effort is made to ensure the accuracy of information in this guide, it is advisable to check details prior to enrolment. Changes to course start dates/times and/or prices may occur.**

## Investing in the future

A recent refurbishment programme of the construction building has enabled the College to look to the future and to those emerging markets and opportunities which are coming to the fore in renewable and low carbon technologies. As resources become increasingly finite it is vital that we identify new processes and use new technologies within the construction sector to harness and harvest the planet's natural resources.

## ABB Energy Centre

The College's ABB Energy Centre offers businesses the opportunity to up-skill their workforce in the growth area of renewable energy. Training on offer includes solar thermal, photovoltaics, heat pumps and biomass systems. The increase in the use of, and the escalating interest in new technologies, is something we, as the largest training provider in the Plymouth travel-to-work area are very aware of. City College Plymouth plays a vital role in ensuring that students leave the College industry-ready, and in supporting businesses seeking to invest in their existing workforce and in these new technologies.



To book onto any of the courses in this guide, or for further information, please call **01752 305300** or e-mail **info@cityplym.ac.uk**.



## Bespoke Courses

Bespoke courses can be specifically tailored to the needs of local businesses in terms of content, delivery and location.

If your business has a specific training need, speak to our team today to plan a solution - on **01752 305300**.

### Bespoke integration support services

Local companies and contractors can make use of this service in a number of ways, including:

- expert support with backing from ABB specialists
- use of the College's Energy Centre resources to support system developments
- use of resources to test ideas.

### ABB product training

In conjunction with ABB we can offer local clients training on specific products. The training could be undertaken by an ABB specialist or by College staff making use of our Energy Centre facilities, classrooms and College hospitality services.

## Overview of Renewable Technologies, College Certificate

Level	2
Duration	Half day
Exam	No
Start Dates	Monthly
Fees	£50
Course Code	ABB1

### Who should attend?

Anyone who is interested in understanding what renewable energy technology is all about, including electricians, plumbers, architects and designers.

### What's it about?

This course offers a basic overview of a range of renewable technologies, including solar thermal, solar PV, rainwater harvesting, heat pumps and wind energy. It also covers typical costs and energy saving advantages, typical installations and financial analysis.





## Overview of Variable Speed Drives, College Certificate

Sponsored by ABB

Level	3
Duration	Two days
Exam	No
Start Dates	Monthly
Fees	£200
Course Code	ABB2

### Who should attend?

Qualified electricians, technicians and maintenance engineers and those wishing to understand the benefits of using variable speed drive systems.

### What's it about?

Variable speed drives (VSDs) offer businesses a new and effective way of reducing their energy consumption. This course is an introduction to the use, installation, fault finding and commissioning of these cost-cutting, low-carbon devices.

Subjects covered include:

- benefits of using VSDs
- theory and application of VSDs
- selecting a suitable VSD for a given application
- overview of what to look for onsite to find suitable apps for VSDs
- installation and commissioning, including
  - how to install a VSD in a retrofit situation - watch points on converting DOL to VSD
  - how to program the ABB VSD to use all of the energy saving functions
  - proving energy savings (compare before and after)
- testing
- fault finding.



## Introduction to Programmable Logic Controllers, College Certificate

Sponsored by **ABB**

Level	3
Duration	Two days
Exam	No
Start Dates	Monthly
Fees	£200
Course Code	ABB3

### Who should attend?

Qualified electricians, technicians and maintenance engineers and those wishing to understand the benefits of using ABB Programmable Logic Controllers.

### What's it about?

Businesses demand a greater level of automation and flexibility than ever before - this course will allow you to respond to those needs with an introduction to the use, application and programming of Programmable Logic Controllers.

Subjects covered include:

- theory and application of Programmable Logic Controllers
- interfacing
- communications
- programming Programmable Logic Controllers
- practical exercises.

# Intelligent Building Control Systems (Taster Session), College Certificate

Level	3
Duration	Two to three hours
Exam	No
Start Dates	Monthly
Fees	£40
Course Code	C010

## Who should attend?

Qualified plumbing and electrical installation professionals and anyone wishing to understand the benefits of using Intelligent Building Control Systems.

## What's it about?

This taster session provides an introduction to Intelligent Building Control Systems and specifically the ABB i-bus KNX system. The session includes a brief overview of the system (which is suitable for industrial, commercial and residential buildings) and its topology with some typical applications. An example system will be demonstrated with the opportunity for some hands-on activities, which will be followed by demonstrations of the Energy Centre KNX resources.

The course includes:

- a basic overview of KNX Intelligent Building Control Systems, including typical applications
- how the system can be used to save energy
- a review of system operation, typical bus devices and topologies
- practical examples and demonstrations.





## KNX Certified Course

Level	3
Duration	Five days
Exam	Yes
Start Dates	Monthly
Fees	£995*
Course Code	C009

### Who should attend?

Level 3 qualified system designers, architects, electricians and those wishing to become integrators who need an in-depth understanding of how the system operates, is programmed, designed, installed and commissioned.



## What's it about?

This course will provide you with detailed knowledge of the operation of an Intelligent Building Control System and give you the skills required to design, install and commission a system. The course includes examinations to check your level of understanding in both theory and practice. On successful completion of the course and examination you will be issued with a KNX certificate.

The course includes:

- an introduction to KNX, bus communication and practical exercises
- system specification, bus devices, topology and practical exercises
- telegrams, communications, installation, power line and practical exercises
- diagnostics and practical exercises
- a question and answer session, revision and exam.

**As this is an intensive course you will be expected to undertake revision of subject matter covered each day in your own time - typically two hours.**

## What you get ...

- Quality training involving both practical and theoretical aspects.
- Folder containing complete set of course notes.
- An ETS4 Lite software licence.
- A residential package\*, if required.
- On successful completion of the exam:
  - a 125 Euro discount on the purchase of ETS professional
  - the right to use the KNX logo in your marketing (subject to terms and conditions of the KNX association)
  - an entry on the KNX international website of certified persons
  - the right to become a KNX partner
  - a KNX certificate.
- Lunch each day!



\* City College Plymouth employer endorser, The Duke of Cornwall Hotel, is pleased to offer a residential rate of £85 per person, per night, for students attending the KNX Certified course.

The Hotel was Plymouth's first luxury hotel and is located two miles from the College. For more information visit [www.thedukeofcornwall.co.uk](http://www.thedukeofcornwall.co.uk). Please quote booking reference CCP/KNX 13.

# KNX Installer Courses

## Intelligent Building Control Systems for Installers (Electricians), College Certificate\*

Level	3
Duration	Two days
Exam	No*
Start Dates	Monthly
Fees	£200**
Course Code	C011

### Who should attend?

Newly qualified electricians, practicing electricians and contractors, and current City College Plymouth students.

### What's it about?

This course is aimed at those wishing to develop an understanding of the installation requirements for Intelligent Building Control Systems using the KNX open standard.

The course includes:

- a basic overview of KNX Intelligent Building Control Systems, including typical applications and demonstrations
- a review of typical bus devices and topologies
- installation requirements
- cable characteristics and cable lengths and terminations
- importance of labelling devices
- project schemes and drawings
- practical exercises.



\* This course covers the content of the City & Guilds 6069 unit 303 and those wishing to obtain this will be required to complete a formally assessed assignment and a multiple-choice examination requiring an additional day of attendance. On successful completion of the assignment and examination you will receive a City & Guilds certificate for the unit completed.

**\*\* Funding may be available depending on individual circumstances, but only if you complete the City & Guilds unit.**

## Intelligent Building Control Systems for Installers (Plumbers), College Certificate\*

Level	3
Duration	Two days
Exam	No*
Start Dates	Monthly
Fees	£200**
Course Code	C012

### Who should attend?

Newly qualified plumbers, practicing plumbers and contractors, and current City College Plymouth students.

### What's it about?

This course is aimed at those wishing to develop an understanding of the installation requirements for Intelligent Building Control Systems using the KNX open standard, with a particular focus on heating control.

The course includes:

- a basic overview of KNX Intelligent Building Control Systems, including typical applications and demonstrations
- a review of typical heating control bus devices and topologies
- installation requirements
- cable characteristics and cable lengths and terminations
- importance of labelling devices
- project schemes and drawings
- practical exercises.



\* This course covers the content of the City & Guilds 6069 unit 302 and those wishing to obtain this will be required to complete a formally assessed assignment and a multiple-choice examination requiring an additional day of attendance. On successful completion of the assignment and examination you will receive a City & Guilds certificate for the unit completed.

**\*\* Funding may be available depending on individual circumstances but only if you complete the City & Guilds unit.**

# KNX Specialist Courses

## Lighting Control (KNX), College Certificate

Level	3
Duration	Two days
Exam	No
Start Dates	Monthly
Fees	£200
Course Code	C015

### Who should attend?

Ideally, you should have completed the accredited KNX five day course or at least have some experience of designing and commissioning systems using the KNX open standard.

### What's it about?

This course will provide you with a detailed knowledge of the operation of Intelligent Building Lighting Control Systems and give you the skills required to design, install and commission such a system. The course is designed for those who have completed the accredited five day KNX course and wish to specialise in lighting control and gain some hands-on experience of designing and commissioning lighting control systems.



The course includes:

- an overview of lighting design
- an overview of lighting control systems, KNX, DALI, DMX etc and dimmer types
- a review of lighting control, switching, absolute, relative dimming, light scene control
- the benefits of using constant lighting control and how to implement constant lighting control
- practical exercises and demonstrations.

## Heating Control (KNX), College Certificate



Level	3
Duration	One day
Exam	No
Start Dates	Monthly
Fees	£100
Course Code	C016

### Who should attend?

Ideally, you should have completed the accredited KNX five day course or at least have some experience of designing and commissioning systems using the KNX open standard.

### What's it about?

This course will provide you with a detailed knowledge of the operation of Intelligent Building Heating Control Systems and give you the skills required to design, install and commission such a system. The course is designed for those who have completed the accredited five day KNX course and wish to specialise in heating control and gain some hands-on experience of designing and commissioning heating control systems.



The course includes:

- an overview of heating systems
- an overview of heating system control requirements
- an overview of heating control devices
- a review of heating control, PI and PWM
- implementing heating systems using devices based on the KNX open system standard
- practical exercises and demonstrations.



## Intelligent Building Control System Provision, City & Guilds 6069-01/02

Level	3
Duration	Four weeks
Exam	No
Start Dates	Termly
Fees	Price on application* Up to £3,000
Course Code	ABB4

### Who should attend?

Level 3 qualified electricians and plumbers - this is a level 3 course that will take approximately 140 to 150 hours of your time. It will provide you with the skills and knowledge to design, install, programme and monitor Intelligent Building Controls.

### What's it about?

This is an entirely brand new qualification compiled, designed and written by City College Plymouth in partnership with ABB Ltd.

The Low Carbon and Green Agenda's focus is on new and emerging technologies, however you can save up to 60% of your energy costs by using Intelligent Building Control Systems. This course will not only show you how energy can be saved, it will also enable you to install such systems in both the domestic and commercial markets.

The course offers two routes; one for plumbers and one for electricians. Because it is recognised as a level 3 qualification, individual units can be obtained as part qualifications and you may be eligible to obtain funding.

Subjects covered include:

### **plumbers' route**

- 2D computer-aided design
- Intelligent Building Control Systems for Installers (Plumbers) (see page 9)
- Requirements of BS7671:2008 '2011' Applications to Electrical Installations

### **electricians' route**

- 2D computer-aided design
- Intelligent Building Control Systems for Installers (Electricians) (see page 8)
- Intelligent Building Control Systems (KNX).

The course will be a 50:50 mixture of theory and practical activities. If you are travelling from outside of the Plymouth area there is a residential option for you where you will be accommodated in one of Plymouth's top hotels and lunch will be provided for you as part of the course costs.

Having successfully completed this course, qualified electricians can progress onto the KNX Certified Course (see page 6). This course is normally five days in duration but on successful completion of the City & Guilds 6090-01 you will only need to attend for a further two days.

### **\* 24+ Advanced Learning Loans**

From August 2013 the Government will be introducing a new 24+ Advanced Learning Loan. This will enable those aged 24 or over to apply for a loan to cover their course fees if they are studying a level 3 or 4 course. For more information call **01752 305300**.

**t:** 01752 305300

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