

# ACBE NEWS

## PETROC SCHOOL OF ARCHITECTURE, CONSTRUCTION AND THE BUILT ENVIRONMENT

# APPRENTICES: A FRESH APPROACH TO GROWTH

Apprentices add life to your business. As well as being eager, motivated, flexible and loyal to the company that invests in them, apprentices deliver real returns to your bottom line. In a recent survey the majority of employers said that Apprenticeships help them to improve productivity and be more competitive (source: apprenticeships.org.uk).

As the construction industry continues to move from a period of recession into a more positive marketplace, it is as important now as it ever was to ensure your company is sufficiently prepared to take opportunities for growth and expansion as they come. There is a challenge within the application of renewables and the low carbon agenda that includes the retrofit market and Modern Methods of Construction (MMC). More efficient construction practices require a sufficiently skilled and able workforce that can be adaptive to change. An apprentice, suitably motivated and skilled, can bring the youth and enthusiasm to a business that is the future of the construction industry and its ability to increase profitability.

### IS AN APPRENTICE FOR YOU?

Petroc is on hand to help your company take on an Apprentice or a work experience student from start to finish. We can help you select the right applicant, keep the paperwork to a minimum and support you and the Apprentice throughout the training period.

### WE OFFER APPRENTICESHIPS IN THE FOLLOWING AREAS:

- Decorative Occupations
- Electrical Installation
- Plastering
- Plumbing & Mechanical Engineering Services
- Renewable Technologies
- Surveying
- Trowel Occupations
- Wood Occupations

### WHAT ARE THE BENEFITS FOR YOUR COMPANY?

Employers gain a highly motivated and loyal workforce which helps boost productivity and makes a positive difference to their

business from day one. Individuals improve their skills and career prospects whilst continuing to learn and earn a wage.

- Reduced training costs - Apprentices are more productive
- Increased staff retention - Apprentices are more loyal
- Transferring your skills - you give the practical training in your style of working
- Remaining competitive - economically viable
- Increased productivity - promoting your company's growth
- Helping plan for the future - addressing recruitment, retention and skills requirements

By training Apprentices, you can plan for future skill requirements, ensuring that the skills critical to your business's successes are not lost.



## PETROC APPRENTICESHIP ACADEMY

Future developments for Petroc include an Apprenticeship Academy; more information will follow in our next newsletter.

# A LOAD OF HOT AIR?

Renewables, Feed in Tariffs, Renewable Heating Incentive Scheme, Micro Generation Scheme, Sap Q... are you confused? What does it all mean? Will it all happen or will Government spending cuts make them all redundant? Martin Hook investigates...

Although the UK is far behind mainland Europe with the application of renewable technology, we are catching up quickly. The problem is that there is a lot of equipment out there that is not doing what it claims to do.

The heat pump market is a good example of this problem. There are a few good systems out there but there are also many systems that are being offered for sale that can be more expensive to run than oil or even LPG boilers – and they certainly produce more carbon emissions when you consider their electricity usage.

So how can you tell what is the best system? What system is going to genuinely save your customers money, will allow them to claim incentive payments and, most of all, give you a trouble free warranty period and a good reputation.

These are some of the questions you need to ask if you are specifying a heat pump:

## **How much energy will it actually provide when you need the heating on full?**

The trouble begins with the information given by the manufacturer. Most manufacturers provide information which includes heat output, taken at an ideal outside temperature and a very low water temperature. This is usually seven degrees outside temperature and 35°C water temperature.

This is fine if you only want to run an under floor heating system in the spring or autumn but how much heat will the system provide when the outside temperature is -10?

A typical heat pump system operating with a conventional HFC refrigerant rated at 9 kW would be hard pressed to provide half that capacity on a cold winter's night and the only way to increase that heat output is to utilise electric immersion heaters.

Similarly, if you want high water temperatures (which you will need in domestic hot water applications to kill legionella bacteria – and that means 62.5°C) you will need your electric heaters again, because some systems cannot achieve a temperature of more than 50°C with a conventional refrigerant.

Legionella bacteria have an ideal growth range at water temperatures between 35 and 46°C. The bacteria are killed at 60°C, the pasteurisation temperature. If the maximum water temperature obtainable without electric heating is below 60°C the system will need to use the electric heater and therefore the system will cost more to run.

## **What is the system COP at very low temperatures?**

The COP is the coefficient of performance; that is the ratio of electrical energy put into the system from the household mains divided into the total heat put into your hot water. You would, for example, need a COP of at least 2.7:1 to compete with gas. Remember that this is the sort of COP you need even on those very cold days. Many top selling heat pumps will give a COP of less than two in the winter. These heat pumps are expensive to run. Specify these and your customers will be cross when they receive their winter electricity bills.

## **What size power supply do I need?**

Many domestic properties have a 100 amp electrical supply; you therefore need to check that your heat pump system is not going to draw too much current. A leading manufacturer supplies a 16 kW heat pump that requires a 64 amp supply! You can have lots of hot water but do you really need to cook and watch a plasma screen or use the PC as well?

## **What about reliability?**

A leading manufacturer has recently had to recall over 6,000 heat pumps because a system exploded. Luckily no one was injured but it has not helped their market image.

## **What about the future?**

A lot of heat pump manufacturers are going to have to change their products. Many units now on the market are modified air conditioning systems; in effect hybrids which do not fully exploit the potential of a purpose designed heat pump. Why do they use an energy wasting defrost system? They are cheap to buy and very expensive to use.

## **Where do I go from here?**

If you want to know more about heat pumps, how to specify and install them, or any of the other renewable technologies, enrol on one of Petroc's specialist courses now.



# BRIGHT SPARKS AT PETROC

Petroc is part of a major European project to share the latest thinking around heat pump technology, refrigeration and air conditioning technology.

We are working with partners in Belgium, Germany, Hungary and the Netherlands, together with the manufacturers Danfoss, on SPARK until September 2012.

The SPARK project will ensure that employers, skilled workers, trainers/teachers and students have good access to up-to-date competence profiles, training materials, methods & approaches to increase their knowledge.

The sector will also benefit, because it will be able to cope with the deployment of energy from renewable sources, contemporary

& future market changes, changes in law & regulations, and any technical & technological developments.

The project is part funded by Leonardo da Vinci Transfer of Innovation, under the Lifelong Learning Programme. Petroc is responsible for the piloting and testing of the project activities.

If you would like further information, please contact the Project Co-ordinator, Edwina Stevenson on **01271 338060** or e-mail: **edwina.stevenson@petroc.ac.uk**



## PLASTERING PARTNERS

Petroc is proud to announce that we have been accepted as part of the British Gypsum Drywall Academy 'Thistle' Training Partnership programme.

This will enhance the flexible training offered for all areas of the plastering trade; including Diplomas, NVQs, OSAT and flexible short courses in Italian Polished Plastering and Fibrous Work.

The partnership with British Gypsum is in addition to existing links with Lafarge Plasterboard who provide metal stud training and demonstrations to Petroc's students and the construction industry.

These partnerships complement our core provision by offering modern methods of construction and state of the art applications.

As with all trade areas, bespoke training and substantial group booking savings are available on request. Please contact us to discuss your requirements in more detail.

## BUILDING A BETTER FUTURE

The economic downturn has meant tough times for the construction industry but there are real signs of improvement, as companies invest in training and development.

Roy Imeson knows construction inside out after working in the industry for over 21 years. During the past 11 years he has had an active role in training and up-skilling the workforce and helping employers recruit apprentices.

The team at Petroc values his views on construction training and recruitment in the local area, from a sector skills perspective.

His current role, with CITB-ConstructionSkills, is as a Company Development Advisor. The job involves meeting employers face-to-face in their work place; reviewing their current position regarding legislation and training needs and answering any relevant questions around apprenticeships.

"As you can imagine this has been a relatively hard role and I have had some adverse meetings over the past 18 months," Roy told ACBE News.

Fortunately, Roy is now happy to report that the past few months have been a more positive time and companies are now looking at developing a year long training plan and starting to employ apprentices.

He has recently conducted some research on behalf of CITB-ConstructionSkills which involved contacting employers across the South West, including a cross section of the construction industry.

The emphasis of the research was to ascertain if employers have or are considering employing an apprentice within the next year.

The outcome of the research reassuringly showed that there are currently 32 construction Apprenticeship vacancies in the North Devon and Exeter areas. These vacancies can now start to be filled with full time learners currently studying at local colleges and with help from Connexions.

Roy anticipates the next year will continue to improve, with the trend of employing Apprentices increasing and companies up-skilling their workforce, though training and development, in preparation for future prosperous times.



# SHORT COURSES

## Electrical Installation

**City & Guilds 2391-10 Inspection, Testing and Certification of Electrical Installations** £450

Barnstaple  
Five Days 22-26 November

**City & Guilds 2377 PAT Testing of Electrical Equipment** £240

Tiverton  
Three Days (Tuesday day release) Starting 30 November

**City & Guilds 2382-20 17th Edition update** £190

Tiverton  
One Day 6 December

**City & Guilds 2382-10 17th Edition (full version)** £350

Barnstaple  
One Day 6-9 December

**City & Guilds 2382-20 17th Edition update** £190

Barnstaple  
One Day 13 December

## Construction Trades

**CSCS Revision and Test** £49

Barnstaple  
Half Day Every Monday as required

### LEGIONNAIRES PREVENTION AND WATER TREATMENT

Following the outbreak of Legionnaires Disease in Wales during August and September, Petroc has seen an increase in the number of people requiring training for the prevention & water treatment of hot & cold water systems.

The cost of the course is £125 plus £40 examination fee and the next available date is Monday 14 February, 2011.

**To book your place call 01271 338189.**

**Ladder Access and Working at Heights** £70

Barnstaple  
One Day 26 November

**Asbestos Awareness** £90

Barnstaple  
Half Day 29 November

## Gas Oil and Water

**Gas & Oil Training and Assessments** Costs vary

Available throughout the year as required  
Costs vary according to training/assessment programme

**Water Industry Approved Plumber Scheme – WRAS** £155

One Day 16 November  
Prices quoted include certification and examination fee where applicable.

Please contact the Short Course Administration Team

**T** +44 (0)1271 338189

**E** [shortcourses@petroc.ac.uk](mailto:shortcourses@petroc.ac.uk)

### ASBESTOS AWARENESS

According to the HSE, asbestos is the single greatest cause of work related deaths in the UK. Estimated figures show that by the year 2010, up to 9,000 people per year will die from asbestos related illnesses.

Petroc regularly runs awareness courses suitable for people working in the construction industry or anyone who might be exposed to asbestos through their day to day work activities.

The cost of training is £70 plus £40 examination fee. Please enquire for the next available date on 01271 338189.

### AQUA BOARD DEMO

Lafarge Plasterboard will be demonstrating Aqua Board at Petroc's Brannams Campus at Roundswell, Barnstaple on Friday 19 November, 2010. The free event is open to students and professionals from 9am to 4.30pm.

Lafarge representatives will be available to answer any questions you may have with regard to their products and application.

**If you'd like to attend, please call 01271 338189.**

Created by the Learner Recruitment Team and the School of Architecture, Construction and the Built Environment  
Design & Print by Inventive Print Solutions Ltd. [www.inventiveprint.co.uk](http://www.inventiveprint.co.uk)

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Printed on sustainable stock using natural and renewable energies with soya based inks.



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