



FETAC Fibre To The Home Optic Fibre Installation Technician Course Description

Awards

Learners can earn - The FETAC Level 6 minor award Optic Fibre Installation 6N2050. A component certificate of the FETAC level 6 major award Telecommunication Access Network Technology.

Duration

The FETAC points value for this award is 15. This equates to 150 learning hours. For learners who have no experience of the communications industry this programme will be completed in upto 150 learning hours.

However learners from a background of working within the communications industry or learners who have had an interest in communications or have had contact, would be expected to complete this course in a substantially shorter time.

Bespoke courses delivered for communication company employees and the skillnets will most certainly reflect this and be completed in a much shorter time.

Before attending the training facility to complete classroom and practical activities. Learners will be briefed and provided with home study material.

Learners are given up to five weeks to complete the home study element of the course material The vast majority of learners should easily be able to cover this in substantially less time than five weeks. We allow so much time so that those with busy lives can take part.

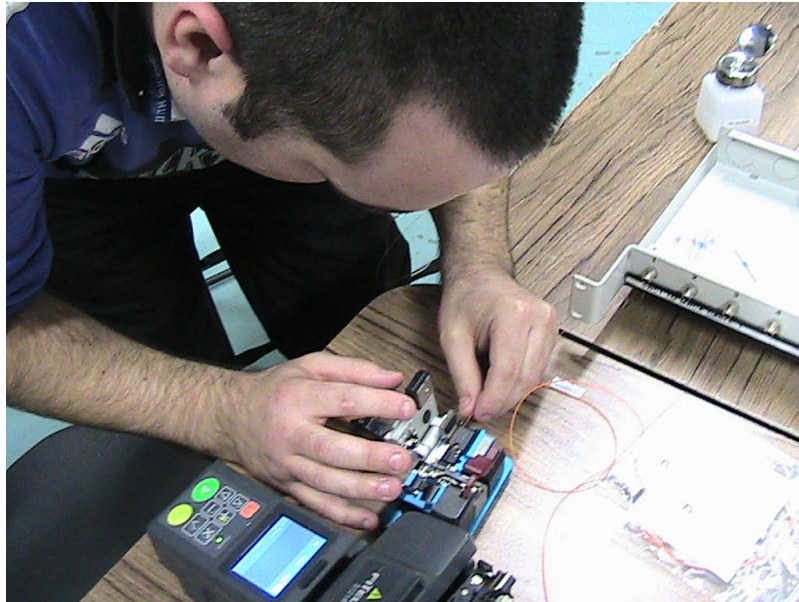
All learners will then attend the training facility for upto one week of full time study to complete classroom activities practical fibre to the home installation training, demonstrations assignments and to complete the course assessments. This is no pressure no stress no time constraint training.

Course Aims

The purpose of this qualification is to meet the wide ranging needs of the communications fibre optic cabling industry. The course provides the skills and knowledge required to carry out the installation and connectorisation of fibre optic cables in the home environment. Commonly described in conversation as FTTH.

This training also enables learners to work in other areas of optic fibre installation and does not restrict them to FTTH activity.

There are massive opportunities for those who complete this Fetac award for the Eircom fibre to the home installation work and the, German 1 million fibre to the home projects.



Objectives learning outcomes

After learners that meet the course entrance criteria, have completed a mix of distance, classroom and practical learning.

In order for learners to work as a Fibre To The Home Optic Cabling Installation Technician. They must be able to understand and will complete the following.

- Recognise the hazards associated with optic fibre systems
- Describe the electromagnetic spectrum and the transmission of optical waves
- Explain the principles of light transmission in optical fibres
- Describe the structure of optical fibre and fibre cables and the range of services provided via fibre networks.
- Describe the basic principles of communications systems - Describe the basic principles of data communication.
- Demonstrate the range of skills required to install fibre cables.
- Demonstrate the skills and procedures involved with identifying and recording the identity of cables and fibres.
- Perform a range of fibre splicing techniques including mechanical fusion and connectorised joints.
- Use standardised techniques for the management of fibres and cables in enclosures
- Perform and record a range of network measurements employing standardized procedures.
- Apply fibre installation techniques in a range of network contexts
- Interpret and implement technical instructions
- Exercise substantial personal autonomy in variety of service provision environments.

This is the exact same training content that is used to train the staff employed by Eircom. The content of the programme allows learners to work on other types of fibre optic cable installation and does not restrict them to only working in a FTTH environment.

Content and Outcomes

Section 1 Recognise the hazards associated with optic fibre systems

Health and Safety legislation – Earthing – Electrical Safety – risk assessment – manual handling - Identify safe working practices in communications systems in an internal data communications environment and an external telecommunications situation. Chemicals. CPE

Section 2 Describe the electromagnetic spectrum and the transmission of optical waves

Describe the basic principles of SI Units and symbols – Signal transmission - Radio

Section 3 Explain the principles of light transmission in optical fibres

An Introduction Optical Fibres – Recognise how and why fibre optic cabling is. Used for communications systems and fibre to the home.

Section 4 Describe the structure of optical fibre and fibre cables and the range of services provided via fibre networks.

Understand how singlemode and multimode optical fibres work and the issues that can affect performance - Identify typical components and explain their uses in relation to fibre to the home.

Section 5 Describe the basic principles of communications and systems -

Identify telecommunication link components and explain their uses - Recognise and use the correct terminology and current standards related to fibre to the home installations.

Section 6 Demonstrate the range of skills required to install fibre cables.

Prepare fibre optic cable for fibre connectorisation and splicing - Follow recommended installation procedures for FTTH.

Section 7 Demonstrate the skills and procedures involved with identifying and recording the identity of cables and fibres.

Identify the colour codes and Labelling cable in splice tray's, odf's,

Section 8 Perform a range of fibre splicing techniques including mechanical fusion & connector joints.

Terminate fibre optic cabling by fusion and mechanical splicing - Prepare fibre optic cabling for splicing within a FTTH Environment - Fusion splice and manage fibres in a cable joint enclosure - Joint a customer drop cable into a main network cable - Terminate fibre optic cables by splicing on pre-terminated pigtails at the home or optical splitter.

Section 9 Use standardised techniques for the management of fibres and cables in enclosures

Fibre optic cabling in an external environment - Fibre optic cabling in an internal data communications environment.

Section 10 Perform and record a range of network measurements employing standardized procedures.

Test and record fibre optic data communications and telecommunication links using recognised procedures. Record splice losses at fusion splicing and with Otdr for FTTH requirements.

Section 11 Apply fibre installation techniques in a range of network contexts

Network Topologies, Network components Understand how and why fibre optic cabling is used in a telecoms environment for core, metro, access and FTTH.

Section 12 Interpret and implement technical instructions

Terminate fibre optic cables by fitting connectors to EN50173 Standards. Identify and put together network components, Complete Link budget calculations.

Section13 Exercise substantial personal autonomy in variety of service provision environments.

Complete installation splicing task from start to finish following instructions without intervention. - Trouble shoot fibre optic cabling.

Course Profile

The communications industry around the world is changing its communications infrastructure from copper based systems to fibre optic based networks. Massive damage in Japan, New Zealand and Australia. Canadian infrastructure works. The Eircom and the 1 million fibre to the home project in Germany require fibre optic cable installation technicians in huge numbers, far more than exist.

The tenders for these projects require companies to specify the qualifications of the employees who are to work for them on what is specified in the tender. The existing Eircom Tenders require this information

This programme is designed to produce technicians with the capability to install the most commonly used fibre optic cables that are used internally within a data communications environment such as a Local area network within business office environments. And more importantly terminate fibre optic cables in to the domestic home environment.

On completion of the course the learners will also be able to install fibre optic cables of the type used in a Telecommunications environment. Which are almost always outside on a network such as Eircom, BT, UPC, Duetsche Telekom, Bord Gais etc.

Learners will be able to joint fibre optic cables using fusion and mechanical methods. Splicing into splice trays used internally in communication racks or externally in waterproof closures and of course splice trays in the home

Learner profile

The qualification is aimed at new entrants to the communications industry such as adults looking for a change of careers such as former plumbers, electricians, Bricklayers etc, or school leavers.

This course is also for existing engineers working in the cable and communications industry who have had no contact with fibre optics who wish to upskill.

It may also serve as an introduction to subjects for those employed in the industry as installation managers and network designers.

Entry Criteria

It would be expected that new entrants would have at least leaving cert. However those who already have skills from a previous industry for example an electrician. The cert would not be required.

Entrants must be able to write neatly and be reasonably numerate. Learners **MUST NOT BE COLOUR BLIND!!**

Once this centre has completed the FETAC approval process for the recognition of prior learning. Learners that hold the City & Guilds Level 2 Certificate in Communications Cabling MAY! be exempted from completing some elements of the learning (Not the assessments, these must all be completed) Dependent on the requirements of the FETAC RPL.

At this time all learners must complete all learning and assessment elements of this course.

Delivery mode and methodologies

This course will require learners to attend our training centre full time to complete learning activities, theory tests and practical assignments.

A number of deliver methodologies are to be employed during this course.

Learners will complete an element of self-directed learning at home. Completing a number of review assignments before attending the training centre. Learners will have workbook, and online study elements and video for this learning element.

The material covered will be the generic theory elements of working with fibre. The fibre to the home activities will be taught in the classroom and at the houses we will be working in.

PowerPoint presentations, Practical demonstrations and exercises, video will be employed while the learners are at the training centre.

In some situations it may be requested by a company that the whole course be delivered in the classroom with no home study. This is an acceptable possibility.

Transfer and Progression

Once learners have completed this training they can go on to build on their portfolio of skills with the other programmes such as.

The remaining components of the FETAC Level 6 Advanced Certificate in Telecommunications Networks Technology.

City & Guilds Awards In communications cabling

Cisco & Microsoft Certifications.

City & Guilds or Fetac level 5 module award in CCTV.

City & Guilds 7540 Diploma in ICT Professional competence

City & Guilds or FETAC module awards in Telecommunications.

City & Guilds Security Cabling

FETAC award in cable pre installation techniques a security based cabling unit

Cost of courses

Course costs Vary. Arrangements have been made through the skillnets for discounted rates for companies trying to upskill their staff. Satellite, Aerial, CCTV, Cable, Installation industries in particular.

We can advise learners who are unemployed and have no money as to the process to source funding and you should contact us directly.

You should provide us with your contact details so that we can discuss your circumstances and the training.

FETAC Fibre To The Home Optic Fibre Installation Technician Course Assessment Plan

All learning outcomes will be assess as follows

Examination - Theory 30%

Skills Demonstration 70%

The assessments have been mapped to ensure that each learning outcome is associated to its most appropriate assessment technique either theory and assignment or practical. A total of 100 points which can be earned have been allocated to cover ALL the assessment techniques.

Theory examination 25 points

Assignment questions 5 points

Practical assessment 70 points

Grading.

Learners will be able to achieve a pass, merit or distinction. The grading will be made calculating a percentage of all the points earned from the theory, assignment and practical assessments.

Grades are to be applied as follows.

Pass 50% - 64%

Merit 65% - 79%

Distinction 80% - 100%

Practical

Practical assessments have been devised which will enable learners to demonstrate a range of skill by completing a number of practical tasks.

Assessment briefs have been produced which provide clear instructions as to what practical task each learner has to complete as they go through the course.

The points value of each practical task is also clearly identified to the learner. Some tasks will earn one point. Some practical tasks will earn more than one point when a number of separate tasks are required to complete an overall task.

The total points that a learner can earn from this assessment activity is 70 points which are to be used to calculate the overall % grade.

All practical activities are to be recorded on assessment record sheets, which have been produced to record the practical activities that have been assessed for each learner.

Photographs would be taken of some activities to be retained as evidence. Practical assessment will be made as the lesson plan is being worked through and at specific times allocated in the lesson plan. This would be clearly identified to all learners at the start of the training and the schedule will be an integral part of the course handout material.

At which point learners will be required to demonstrate a practical activity. No time limit is applied to this assessment activity. Accuracy is being assessed. Speed and productivity is established by continued practice.

Evidence

The following evidence will be produced by the learners and collected for evaluation purposes.

- Review question answer sheets
- Practical activities record sheets signed and dated when each activity was completed
- Photographs of each learner completing practical activities
- Pot and polish patch leads that each learner makes will be retained in a folder for inspection.
- Practical activities record sheets detailing measurements taken by the learners with test equipment.
- Electronic OTDR traces which are produced by each learner.

THE KEY STAGES OF TRAINING WITH OUR PROGRAMMES

1. Select Which of the courses you want to take. Obtain funding if it is required. Book and Pay for The course, (if funded any shortfall) including any Exam Fees (which are not refundable if you do not complete the course)

2. We send the study material to you or provide log in details for you to download the material or study the material online (when our online system becomes live)

3. You study the material. You have a minimum of 5 WEEKS to complete the review questions in the training material. We then schedule a date for you to attend for the theory assessments and practical training.

You must complete all the review questions in the workbook or online before you go on to attend our training centre for practical training.

If you come to the training centre without the review questions being completed in the workbook or online you will be sent away.

4. Attend our training centre to complete the practical training and assessments over five to ten days.

Day 1/2 = Review the Theory and prepare for theory assessments

Days 2 - 5 Complete practical activities and practice. Complete the practical assessments.

Days 6 – 10 Days for those that need further support.

FETAC have determined that each unit requires a number of study hours. By structuring our programme this way, we ensure that you are given the time to study the material to be able to pass the theory tests.

Then, Instead of the few hours of practical activity that other providers will give you. We provide you with practical training so that at the end you are able to do the job.