



Higher National Unit specification

General information

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Unit code: H6TA 33

Superclass: XL

Publication date: March 2014

Source: Scottish Qualifications Authority

Version: 01

Unit purpose

The Unit is aimed at learners working within the Electronic Fire and Security Systems Industry or those with an interest in gaining employment within this sector.

The Unit is designed to enable the learner to develop a general knowledge and understanding of the technology used in the installation and configuration of signalling systems and the regulations and standards that apply to these systems.

This Unit forms part of the PDA in Providing Electronic Fire and Security Systems. This PDA provides underpinning knowledge and skills for the SVQ level 3 in Providing Electronic Fire and Security Systems at SCQF level 6. The SVQ forms part of the Modern Apprenticeship in Electronic Security Systems.

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Describe the services provided by an Alarm Receiving Centre (ARC), its role in the electronic fire and security industry and the process involved in data transmission.
- 2 Explain the requirements for connection and testing of signalling equipment.
- 3 Describe the operation of CCTV IP transmission to and from remote sites.
- 4 Demonstrate the connection, configuration and operation of PC based software within electronic fire and security systems.
- 5 Describe the requirements for the networking of security systems.

Higher National Unit specification: General information (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Credit points and level

1 Higher National Unit credit at SCQF level 6: (8 SCQF credit points at SCQF level 6)

Recommended entry to the Unit

While entry is at the discretion of the centre, learners would normally be expected to have attained the following:

- ◆ F3GF 11 Numeracy (Core Skill Unit), SCQF level 5
or
- ◆ C100 11 Mathematics: Mathematics 1, 2 and 3 (Intermediate 2), SCQF level 5
or
- ◆ C101 11 Mathematics: Mathematics 1, 2 and Applications (Intermediate 2), SCQF level 5
or
- ◆ 2500 Standard Grade Maths (Credit), SCQF level 5

Together with:

- ◆ F3GB 11 Communication (Core Skills Unit), SCQF level 5
or
- ◆ C270 11 English (Intermediate 2), SCQF level 5
or
- ◆ 0860 Standard Grade English (Credit), SCQF level 5

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Context for Delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Higher National Unit specification: Statement of standards

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Describe the services provided by an Alarm Receiving Centre (ARC), its role in the electronic fire and security industry and the process involved in data transmission.

Knowledge and/or Skills

- ◆ The role of an Alarm Receiving Centre in the electronic fire and security industry
- ◆ The process for data transmission to and from Alarm Receiving Centres
- ◆ The services provided by an Alarm Receiving Centre: including secure system, remote video, lone worker, facilities monitoring

Outcome 2

Explain the requirements for connection and testing of signalling equipment.

Knowledge and/or Skills

- ◆ Methods of signalling for each communication type to European standards for electronic fire and security systems
- ◆ Methods of connecting and testing single path communicators: Redcare, digital communicators and voice/speech diallers
- ◆ Methods of connecting and testing dual path communicators: GSM Redcare and CSL DualCom
- ◆ Methods of connecting and testing through to an ARC for fire alarm systems: GSM Redcare and CSL DualCom
- ◆ Methods of connecting and testing through to an ARC for IP based communications: WebWayOne and IRIS Touch

Outcome 3

Describe the operation of CCTV IP transmission to and from remote sites.

Knowledge and/or Skills

- ◆ Method of connecting and testing CCTV signals through to an ARC: ADPRO, Redcare Assure, Network Viewer
- ◆ Methods used to transmit video over IP

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Outcome 4

Demonstrate the connection, configuration and operation of PC based software within electronic fire and security systems

Knowledge and/or Skills

- ◆ Methods of configuring PCs to interface and control electronic fire and security systems
- ◆ Software packages available for electronic fire and security systems
- ◆ Configuration of electronic fire and security systems to carry out upload/download of data using a local PC

Outcome 5

Describe the requirements for the networking of security systems.

Knowledge and/or Skills

- ◆ Methods of networking electronic fire and security systems over local area networks
- ◆ Methods of networking electronic fire and security systems over wide area networks

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Evidence Requirements for this Unit

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills across all Outcomes by showing that they can:

Outcome 1

The learner should provide oral and/or written evidence to satisfy the Evidence Requirements.

There is no sampling in this Outcome. All aspects of Knowledge and Skills must be assessed.

The standard and quality of the evidence produced by the learner should be reflective of SCQF level 6 and demonstrate a detailed knowledge and understanding of all items in the Knowledge and Skills Section.

For this Outcome, each learner will:

- ◆ Describe correctly the role of an Alarm Receiving Centre in the electronic fire and security industry
- ◆ Describe correctly the process for the transmission of data to and from Alarm Receiving Centres
- ◆ Describe correctly the services provided by an Alarm Receiving Centre, including secure system, remote video, lone worker, facilities monitoring

The summative assessment tasks for Outcome 1 will be undertaken in closed-book, timed and supervised conditions. All summative tasks must be unseen. Learners are not allowed to use reference sources. Approximately one hour should be allocated to the summative assessment of Outcome 1.

Outcome 2

The learner should provide oral and/or written evidence to satisfy the Evidence Requirements.

There is no sampling in this Outcome. All aspects of Knowledge and Skills must be assessed.

The standard and quality of the evidence produced by the learner should be reflective of SCQF level 6 and demonstrate a detailed knowledge and understanding of all items in the Knowledge and Skills Section.

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Signalling (SCQF level 6)

For this Outcome, each learner will:

- ◆ Explain correctly the methods and standards for the transmission of signals for electronic fire and security systems.
- ◆ Explain correctly the methods of connecting and testing single path communicators, including Redcare, digital communicators and voice/speech diallers.
- ◆ Explain correctly the methods of connecting and testing dual path communicators, including GSM Redcare and CSL DualCom.
- ◆ Explain correctly the methods of connecting and testing through to an Alarm Receiving Centre for fire detection systems, including GSM Redcare and CSL DualCom.
- ◆ Explain correctly the methods of connecting and testing through to an Alarm Receiving Centre for IP based systems, including WebWayOne and IRIS Touch.

The summative assessment tasks for Outcome 2 will be undertaken in closed-book, timed and supervised conditions. All summative tasks must be unseen. Learners are not allowed to use reference sources. Approximately one hour should be allocated to the summative assessment of Outcome 2.

Outcome 3

The learner should provide oral and/or written evidence to satisfy the Evidence Requirements.

There is no sampling in this Outcome. All aspects of Knowledge and Skills must be assessed.

The standard and quality of the evidence produced by the learner should be reflective of SCQF level 6 and demonstrate a detailed knowledge and understanding of all items in the Knowledge and Skills Section.

For this Outcome, each learner will:

- ◆ Describe correctly the methods of connecting and testing CCTV signals through to an ARC, including ADPRO, Redcare Assure, Network Viewer.
- ◆ Describe correctly the methods of transmitting video over IP, including, identifying IP address, port forwarding on routers, IP address set up, IP ping and testing.

The summative assessment tasks for Outcome 3 will be undertaken in closed-book, timed and supervised conditions. All summative tasks must be unseen. Learners are not allowed to use reference sources. Approximately one hour should be allocated to the summative assessment of Outcome 3.

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Outcome 4

The learner should provide oral and/or written evidence to satisfy the Evidence Requirements.

There is no sampling in this Outcome. All aspects of Knowledge and Skills must be assessed.

The standard and quality of the evidence produced by the learner should be reflective of SCQF level 6 and demonstrate a detailed knowledge and understanding of all items in the Knowledge and Skills Section.

For this Outcome, each learner will:

- ◆ Describe correctly the methods used to interface and control electronic fire and security systems via PC based software.
- ◆ Describe correctly software packages available in electronic fire and security systems.
- ◆ Demonstrate accurately an upload and download of data from an electronic fire and security system using a local PC.

The summative assessment tasks for Outcome 4 will be undertaken in closed-book, timed and supervised conditions. All summative tasks must be unseen. Learners are not allowed to use reference sources. Approximately one hour should be allocated to the summative assessment of Outcome 4.

Outcome 5

The learner should provide oral and/or written evidence to satisfy the Evidence Requirements.

There is no sampling in this Outcome. All aspects of Knowledge and Skills must be assessed.

The standard and quality of the evidence produced by the learner should be reflective of SCQF level 6 and demonstrate a detailed knowledge and understanding of all items in the Knowledge and Skills Section.

For this Outcome, each learner will:

- ◆ Describe correctly the methods of networking electronic fire and security systems over local and wide area networks.

The summative assessment tasks for Outcome 5 will be undertaken in closed-book, timed and supervised conditions. All summative tasks must be unseen. Learners are not allowed to use reference sources. Approximately one hour should be allocated to the summative assessment of Outcome 5.

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

For all Outcomes

Centres should devise Instruments of Assessment that will allow the learner to meet the Evidence Requirements for the Outcome to the required standard (See Guide to Assessment). It is recommended that centre devised Instruments of Assessment are prior verified by SQA.

Assessment for this Unit can be carried out at the discretion of the centre in the following ways:

- ◆ Outcome by Outcome
- ◆ Combining Outcomes
- ◆ One holistic assessment of the Unit

Suggestions for approaches to assessment can be found in the Support Notes of this Unit. As this is a 40 hour Unit, approximately four hours should be dedicated to summative assessment for the entire Unit.



Higher National Unit Support Notes

Unit title: Electronic Fire and Security Systems: Signalling

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit forms part of the PDA in Providing Electronic Fire and Security Systems. This PDA provides underpinning knowledge and skills for the SVQ level 3 in Providing Electronic Fire and Security Systems at SCQF level 6. The SVQ forms part of the Modern Apprenticeship in Electronic Security Systems.

Although not directly awarded, completion of the Modern Apprenticeship Award gives opportunities to apply for professional recognition through the Institute of Engineering Technology and successful recognition will result in the EngTech qualification being awarded.

It may be possible to progress from the Modern Apprenticeship to other qualifications.

Centres should ensure that learners are presented with sufficient theoretical information to succeed in the assessment of this Unit.

Outcome 1

This Outcome covers the necessary underpinning knowledge and skills relating to the services and roles that are provided by Alarm Receiving Centres (ARC) and the process of the transmission of data between a secure site and ARC.

Learners should have an understanding of the role of an Alarm Receiving Centre. This should include:

- ◆ Alarm receiving and intruder monitoring, fire monitoring and other types of monitoring including refrigerators, boilers, etc.
- ◆ CCTV monitoring
- ◆ Hold-up alarms
- ◆ Other alarm systems such as lone worker and elderly persons' alarms

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling (SCQF level 6)

Learners should have an understanding of how data is sent from an ARC and who is contacted on receipt of these signals:

- ◆ Signals sent via a secure telephone line
- ◆ Signals sent via an independent SIM card
- ◆ Signals sent via secure IP network
- ◆ Police/Fire Authorities
- ◆ Security companies
- ◆ Clients
- ◆ Key holder

In addition to the above a learner should have an understanding of the other services that an ARC can provide, including:

- ◆ Call handling
- ◆ Message services
- ◆ Key holding
- ◆ Secure system
- ◆ Remote video
- ◆ Lone worker
- ◆ Facilities monitoring

Outcome 2

This Outcome covers the necessary underpinning knowledge and skills relating to the connection and testing of signalling equipment in electronic fire and security systems.

Learners should have an understanding of the remote monitoring standards (BS8418).

Learners should have an understanding of the process for identifying the correct telephone point to be used for the signalling of electronic fire and security systems. The methods of installing additional telephone points and programming data transmission systems should be covered.

Learners should have an understanding of the correct methods of installing the signalling equipment and procedures for connection to an ARC for all electronic fire and security systems. These should include:

- ◆ Single path communicators: Redcare, digital communicators and voice/speech diallers
- ◆ Dual path communicators: GSM Redcare and CSL DualCom
- ◆ IP based signalling: WebWayOne and IRIS Touch

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Outcome 3

This Outcome covers the necessary underpinning knowledge and skills relating to the operation of CCTV IP transmission to and from remote sites.

Learners should have an understanding of connecting video transmission to an ARC and remote sites via the use of products such as Redcare Assure, ADPRO, and Network Viewer.

The process of setting up Internet Protocol addresses for control equipment and port forwarding at the router to allow video transmission to take place should be explained. The methods of connecting and testing control equipment and video monitoring equipment in accordance with manufacturer's instructions should also be covered.

Learners should understand the different components required to successfully achieve CCTV IP transmission and their role, including:

- ◆ Camera
- ◆ Transmission medium
- ◆ Control equipment
- ◆ Router
- ◆ Computer software (Central monitoring software)
- ◆ Laptop/Computer

Outcome 4

This Outcome covers the necessary underpinning knowledge and skills relating to the connection, configuration and operation of PC based software within electronic fire and security systems.

The learner should have an understanding of the methods of connecting and configuring electronic fire and security systems to a PC using the following:

- ◆ Hyper terminal
- ◆ Internet protocols
- ◆ RS232
- ◆ RS485
- ◆ Universal serial bus (2)

It should be explained to learners which method above should be used for each discipline.

Learners should have an understanding of the different software packages available for use in electronic fire and security systems such as Galaxy Gold, ADPRO Video Central, Fire Control, Net2 software, Milestone, Avigilon, Texecom Ricochet, Central Monitoring Software.

A selection of the above software packages can be used to give learners an understanding of the different packages available in the electronic fire and security systems to configure systems.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

After gaining the theoretical knowledge of connecting and configuring electronic fire and security systems, learners should be assigned a practical activity to demonstrate the process of carrying out upload/download of data using a local PC.

Outcome 5

This Outcome covers the necessary underpinning knowledge and skills relating to the networking of electronic fire and security systems over both local and wide area networks.

Learners should have an understanding of the methods used to network and integrate multiple control systems in one local area network such as fire panels, intruder panels, access control systems and CCTV control and monitoring systems. This would be where several systems in one building are connected to operate more efficiently.

The tutor should explain the process for networking electronic fire and security systems over a wide area network and the equipment that is required to achieve this. This should include structured cabling, RJ45 ends, patch sockets, switches, PoE switches, IP addresses, routers.

The pros and cons of networking over local and wide area networks should be explained, including:

- ◆ Costs
- ◆ Effectiveness
- ◆ Skills
- ◆ Time
- ◆ Equipment
- ◆ Safety/Security (Information)

Guidance on approaches to delivery of this Unit

This Unit can be delivered as a free-standing Unit or as part of a Group Award. This Unit is a mandatory Unit in the PDA Providing Electronic Fire and Security Systems and is designed to give learners the underpinning knowledge and skills to support the SVQ level 3 in Providing Electronic Fire and Security Systems. The SVQ forms part of the Modern Apprenticeship in Electronic Security Systems.

A variety of delivery approaches could be adopted in this Unit and, although there is no preferred order of teaching, a systematic approach is recommended. Practitioners should use their professional judgement in designing and delivering the Unit so that it is appropriate, relevant and motivating for individual learners. Approaches should be learner-centred, participative and practical. For example, group activities, one-to-one tutorials, differentiated learning materials and visual aids. Home study activities should also be designed.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Links in this Unit should be made to the National Occupational Standards (NOS) for the Electronic Security Systems Sector and in particular:

SFS SYS 11	Test and confirm operation of electronic security systems
SFS SYS 10	Install electronic security systems
SFS SYS 12	Commissioning electronic security systems
SFS SYS 6	Plan the installation of electronic security systems
SFS SYS 8	Make preparations and arrangements to install electronic security systems

Learners could use information or resources acquired during this Unit to help with the completion of the above NOS.

It is recommended that use of a wiki or similar should be encouraged to allow learners to share knowledge and research findings.

Where resources permit, centres should use technology as much as possible to support learning, teaching and assessment. This could include, for example:

- ◆ Compiling and maintaining e-portfolios
- ◆ Web-based research
- ◆ Game based learning
- ◆ Using chat rooms for discussion
- ◆ Using virtual learning environments
- ◆ Submission of assessed work through VLE, email

The learning and teaching approaches used should encourage learners to be aware of the Knowledge and/or Skills gained, to retain these and use in other contexts.

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres should create formative assessments that are both appropriate to the individual's needs and which also prepare the learner for summative assessment. Summative assessment should only take place when the learner has developed the knowledge and skills at the required level for the Unit

Lecturers should provide adequate opportunities for informal assessment to take place prior to learners undertaking summative assessments. Lecturers may give learners advice and support during any informal assessment in order to prepare them for summative assessment.

Centres may use the Instruments of Assessment which are considered by lecturers to be most appropriate. Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that could be transferable to work or further and higher education.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

A range of different assessment methods could. Suggested examples can be found in SQA's Guide to Assessment. www.sqa.org.uk

Records of all assessment instruments used and evidence produced by each learner for summative assessment purposes — oral/written/practical — must be retained for internal and external verification purposes.

Practical evidence can be either:

- ◆ Assessor checklist with oral questioning
- or
- ◆ Photographic/video evidence

All learner evidence must be signed and dated by the assessor thus ensuring authentication.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use E-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of E-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Opportunities for developing Core and other essential skills

There is no automatic certification of Core Skills in this Unit. However, there are opportunities to develop aspects of Core Skills in *Communication* (Written and/or Oral), *Problem Solving* (Critical Thinking and Planning and Organising), *Information and Communication Technology* (Accessing Information) and *Working with Others* (Working Co-operatively with Others).

Communication: Oral Communication

The Core Skill component Oral Communication at SCQF level 6 could be developed in this Unit. The general skill for this component is — *Produce and respond to oral communication on a complex topic*. This component could be developed through participating in discussions, one-to-one dialogues and group work for both formative and summative assessment purposes. Tasks involving group activities and joint feedback sessions would offer the learner opportunities to make a contribution to a discussion on a complex topic. This could be achieved during a class project when learners discuss their research findings.

Communication: Written Communication

The Core Skill component Written Communication (Writing) at SCQF level 5 could be developed in this Unit. The general skill for this component is — *Produce well-structured written communication*. This component could be developed through research activities and the production of reports, essays or other forms of written communication. Some learners may develop this skill at SCQF level 6.

Problem Solving: Critical Thinking

The Core Skill component Critical Thinking at SCQF level 5 could be developed in this Unit. The general skill for this component is — *Analyse a situation or issue*. This component could be developed where a situation or issue has arisen in the course of the learner's work or study. The learner would need to analyse and evaluate the situation or issue and devise a strategy to deal with it. The learner should reflect on and evaluate the success of the strategy. Alternatively, the tutor could provide a case study.

Problem Solving: Planning and Organising

The Core Skill component Planning and Organising at SCQF level 5 could be developed in this Unit. The general skill for this component is — *Plan, organise and complete a task*. This component could be developed through planning, organising and completing a task. The learner would need to develop a plan, identify and obtain the required resources and then carry out the task. Resources could include, for example, time available, paper work and documentation, set procedures, people and equipment. The learner must decide on how the task will be managed. This could include allocation of responsibilities in a group context. Planning and organising skills could be developed through the completion of home study, research and practical tasks.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Information and Communication Technology: Accessing Information

The Core Skill component Accessing Information at SCQF level 6 could be developed in this Unit. The general skill for this component is — *Use ICT independently to carry out complex searches across a range of tasks*. This component could be developed by carrying out searches and accessing information for tasks in the Unit. This could involve some searching on complex tasks on unfamiliar information. Research activities will help develop a learner's skills in accessing information on a complex task.

Working with Others: Working Co-operatively with Others

The Core Skill component *Working Co-operatively with Others* at SCQF level 6 could be developed in this Unit. The general skill for this component is — *In complex interactions, work with others co-operatively on an activity and/or activities*. This component could be developed by gathering evidence from the workplace or by taking part in group activities in the centre. This could include, for example, joint information and feedback sessions, group research or practical activities.

Other Essential Skills developed through the completion of this Unit

- ◆ Time Management: through the completion of projects and research tasks the learner will acquire new skills in how to manage their own time to help achieve a common goal.

History of changes to Unit

Version	Description of change	Date

© Scottish Qualifications Authority 2014

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Business Development and Customer Support team, telephone 0303 333 0330.

General information for learners

Unit title: Electronic Fire and Security Systems: Signalling (SCQF level 6)

This summary will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

The Unit is aimed at those working within the Electronic Fire and Security Systems Industry or with an interest in gaining employment within this sector.

The Unit is designed to enable you to develop a general knowledge and understanding of the technology used in the installation and configuration of signalling systems and the regulations and standards that apply to these systems.

This Unit forms part of the PDA in Providing Electronic Fire and Security Systems. This PDA provides underpinning knowledge and skills for the SVQ level 3 in Providing Electronic Fire and Security Systems at SCQF level 6. The SVQ forms part of the Modern Apprenticeship in Electronic Security Systems.

On completion of the Unit you will be able to:

- 1 Describe the services provided by an Alarm Receiving Centre (ARC), its role in the electronic fire and security industry and the process involved in data transmission.
- 2 Explain the requirements for connection and testing of signalling equipment.
- 3 Describe the operation of CCTV IP transmission to and from remote sites.
- 4 Demonstrate the connection, configuration and operation of PC based software within electronic fire and security systems.
- 5 Describe the requirements for the networking of security systems.

You will participate in class lectures, group activities and home study.

There are different ways in which you can be assessed. Questions will be generated to test your knowledge and understanding. Practical exercises will be used to assess your skills.

There is no automatic certification of Core Skills in this Unit. However, there are opportunities to develop aspects of Core Skills in *Communication* (Written and/or Oral), *Problem Solving* (Critical Thinking and Planning and Organising), *Information and Communication Technology* (Accessing Information) and *Working with Others* (Working Co-operatively with Others).

Communication: Oral Communication

The Core Skill component Oral Communication at SCQF level 6 could be developed in this Unit. The general skill for this component is — *Produce and respond to oral communication on a complex topic*. This component could be developed through participating in discussions, one-to-one dialogues and group work for both formative and summative assessment purposes. Tasks involving group activities and joint feedback sessions would offer you opportunities to make a contribution to a discussion on a complex topic. This could be achieved during a class project when you discuss your research findings.

General information for learners (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Communication: Written Communication

The Core Skill component Written Communication (Writing) at SCQF level 5 could be developed in this Unit. The general skill for this component is — *Produce well-structured written communication*. This component could be developed through research activities and the production of reports, essays or other forms of written communication. You may develop this skill at SCQF level 6.

Problem Solving: Critical Thinking

The Core Skill component Critical Thinking at SCQF level 5 could be developed in this Unit. The general skill for this component is — *Analyse a situation or issue*. This component could be developed where a situation or issue has arisen in the course of your work or study. You would need to analyse and evaluate the situation or issue and devise a strategy to deal with it. You should reflect on and evaluate the success of the strategy. Alternatively, your tutor could provide a case study.

Problem Solving: Planning and Organising

The Core Skill component Planning and Organising at SCQF level 5 could be developed in this Unit. The general skill for this component is — *Plan, organise and complete a task*. This component could be developed through planning, organising and completing a task. You would need to develop a plan, identify and obtain the required resources and then carry out the task. Resources could include, for example, time available, paper work and documentation, set procedures, people and equipment. You must decide on how the task will be managed. This could include allocation of responsibilities in a group context. Planning and organising skills could be developed through the completion of home study, research and practical tasks.

Information and Communication Technology: Accessing Information

The Core Skill component Accessing Information at SCQF level 6 could be developed in this Unit. The general skill for this component is — *Use ICT independently to carry out complex searches across a range of tasks*. This component could be developed by carrying out searches and accessing information for tasks in the Unit. This could involve some searching on complex tasks on unfamiliar information. Research activities will help develop your skills in accessing information on a complex task.

Working with Others: Working Co-operatively with Others

The Core Skill component Working Co-operatively with Others at SCQF level 6 could be developed in this Unit. The general skill for this component is — *In complex interactions, work with others co-operatively on an activity and/or activities*. This component could be developed by gathering evidence from the workplace or by taking part in group activities in the centre. This could include, for example, joint information and feedback sessions, group research or practical activities.

General information for learners (cont)

Unit title: Electronic Fire and Security Systems: Signalling
(SCQF level 6)

Other Essential Skills developed through the completion of this Unit

- ◆ Time Management: through the completion of projects and research task you will learn new skills in how to manage your own time to help achieve a common goal.

Although not directly awarded, completion of the Modern Apprenticeship Award in electronic fire and security systems gives opportunities to apply for professional recognition through the Institute of Engineering Technology and successful recognition will result in the EngTech qualification being awarded.