



Higher National Unit specification

General information

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Unit code: H6T7 33

Superclass: XJ

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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 of intruder and hold-up alarm systems and the regulations and standards that apply to this discipline.

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 Explain the current standards and industry codes of practice relating to intruder and hold-up alarm systems design, installation and commissioning.
- 2 Describe the types of detection circuits used within intruder and hold-up alarm systems.
- 3 Explain the types and features of detectors currently used within intruder and hold-up alarm systems.
- 4 Explain the types and functions of intruder and hold-up alarm control panels.
- 5 Explain the basic purpose, input and output functions and warning devices of intruder and hold-up alarm systems.

Higher National Unit specification: General information (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Credit points and level

1 Higher National Unit credits 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: Intruder and Hold-Up Alarm Systems Installation (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

Explain the current standards and industry codes of practice relating to intruder and hold-up alarm systems design, installation and commissioning.

Knowledge and/or Skills

- ◆ British Standards for intruder and hold-up alarm systems, including BS EN50131 and PD6662
- ◆ Codes of Practice (CoP) for intruder and hold-up alarm systems, including BS8243, DD 263
- ◆ Process for grading intruder and hold-up alarm systems

Outcome 2

Describe the types of detection circuits used within intruder and hold-up alarm systems.

Knowledge and/or Skills

- ◆ The types and features of detector circuits used in intruder and hold-up alarm systems, including single pole, double pole and supervised loops
- ◆ The purpose and importance of tamper circuits used in intruder and hold-up alarm systems
- ◆ Shunt circuits, their operation and purpose in an intruder alarm system
- ◆ In relation to the applicable standards, the setting and unsetting procedure of an intruder alarm system, including the use of safe set shunt circuits
- ◆ The application of open and closed circuits within an intruder and hold-up alarm system

Outcome 3

Explain the types and features of detectors currently used within intruder and hold-up alarm systems.

- ◆ Deliberately operated devices used in intruder and hold-up alarm systems, including their use, operation and limitations
- ◆ Automatic sensors used in intruder and hold-up alarm systems, including their use, operation and limitations
- ◆ Standards and manufacturer guidelines for setting up automatic detection devices and modes of operation, including microwave, infra-red and vibration technology

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Outcome 4

Explain the types and functions of intruder and hold-up alarm control panels.

Knowledge and/or Skills

- ◆ Control equipment used in intruder and hold-up alarm installations, including conventional and multiplex systems
- ◆ The features and functions of intruder and hold-up alarm control panels
- ◆ Limitations of control equipment power supplies and alternate solutions, including multiplex systems, expanders and stand alone power supplies

Outcome 5

Explain the basic purpose, input and output functions and warning devices of intruder and hold-up alarm systems.

Knowledge and/or Skills

- ◆ What is an input and output in an intruder and hold-up alarm system
- ◆ The operation of warning devices, including SAB and SCB
- ◆ The operation and functions of the outputs available on control equipment, including conventional and multiplex systems

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (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 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:

- ◆ Explain accurately the British Standards for intruder and hold-up alarm systems, including BS EN50131 and PD6662.
- ◆ Explain accurately the Codes of Practice for intruder and hold-up alarm systems, including the CoP for false alarm management BS8243 and DD 263.
- ◆ Explain accurately the grading process for intruder and hold-up alarm systems.

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 of the items in the Knowledge and Skills Section.

Higher National Unit specification: Statement of standards (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

For this Outcome, each learner will:

- ◆ Describe correctly the features of detector circuits used in intruder alarm and hold-up alarm systems, including single pole, double pole and fully supervised loops.
- ◆ Describe correctly tamper circuits used in an intruder and hold-up alarm system.
- ◆ Describe correctly the operation and purpose of shunt circuits used in intruder alarm systems.
- ◆ Describe correctly, in relation to the standards, the setting and unsetting procedure of an intruder alarm system, including the use of safe set shunt circuits.
- ◆ Describe correctly the application of open and closed circuits used in intruder and hold-up alarm systems.

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:

- ◆ Explain accurately the use, operation and limitations of deliberately operated devices used in intruder and hold-up alarm systems.
- ◆ Explain accurately the use, operation and limitations of automatic sensors used in intruder and hold-up alarm systems.
- ◆ Explain accurately, in accordance with the standards and manufacturer guidelines, the setting up process and operation of automatic sensors, including PIR, dual technology, quad, break glass and vibration detectors.

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: Intruder and Hold-Up Alarm Systems Installation (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 of the items of Knowledge and Skills.

For this Outcome, each learner will:

- ◆ Explain correctly the types of control equipment used in intruder and hold-up alarm installation, including Control Panel, Remote Keypad and Expanders.
- ◆ Explain correctly the features and functions of control panels used in intruder and hold-up alarm systems.
- ◆ Explain correctly control equipment limitations and alternate solutions available, including multiplex systems, expanders and stand alone power supplies.

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 of the items in the Knowledge and Skills Section.

For this Outcome, each learner will:

- ◆ Explain correctly the different types of inputs and outputs used in intruder and hold-up alarm systems.
- ◆ Explain correctly the operation and functions of outputs on control equipment used in intruder and hold-up alarm systems, including aux, trigger and communication outputs.
- ◆ Explain the operation of warning devices, including SAB and SCB.

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: Intruder and Hold-Up Alarm Systems Installation (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: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

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 also 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 Award 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 current standards and industry codes of practice relating to the installation of intruder and hold-up alarm systems.

This Outcome is designed to give learners an understanding of the current industry standards for intruder alarm systems, in particular BS EN 50131:1–8 and PD6662.

The areas of the European standards that should be covered are as follows:

- ◆ BS EN 50131–1 — Intruder and hold-up alarm systems
- ◆ BS EN 50131–2 — Intrusion detectors
- ◆ BS EN 50131–3 — Control and indicating equipment
- ◆ BS EN 50131–4 — Warning devices
- ◆ BS EN 50131–5 — Interconnections
- ◆ BS EN 50131–6 — Power supplies
- ◆ BS EN 50131–7 — Application guidelines
- ◆ BS EN 50131–8 — Smoke devices

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Learners should also understand the purpose of the published document (PD6662) and its role in supporting the European standards in the intruder alarm industry.

Codes of practice that are presently operational in the intruder and hold-up alarm industry should be explained, including DD 263 (intruder and hold-up alarm systems. Commissioning, maintenance and remote support) and BS8243 (installation and configuration of intruder and hold-up alarm systems designed to generate confirmed alarm conditions). The main requirements of these codes of practice should be explained to learners and the transition between draft for development documents (DD243) into British Standard (BS8243) must be covered.

Learners should be taught the process of grading intruder and hold-up alarm systems, including site and insurance requirements, risk assessment and likelihood of theft or vandalism occurring.

Outcome 2

This Outcome covers the necessary underpinning knowledge and skills relating to the types of circuitry and detectors used in both intruder and hold-up alarm systems.

This Outcome is designed to provide learners with an understanding of the many components used within intruder and hold-up alarm systems.

Learners should have an understanding of the types of detector circuits used in the industry, (single-pole and double-pole, fully supervised loops), their features and use.

The use of tamper circuits for devices, joint boxes and other ancillary devices should be explained as well as their use as part of the security system.

Learners should be made aware that different grades of intruder alarm systems have different requirements for tampering devices such as junction boxes and magnetic door contacts. Learners should also be made aware of the appropriate standards. For example, BS EN 50131:1 states that, except for junction boxes and magnetic contacts, there is a requirement to detect removal from mounting for wired components in grade 3 intruder alarm systems. In other words, all other devices should be fitted with a back tamper to meet the requirements of grade 3 installations.

Learners should have an understanding of the use of shunt circuits in intruder alarms. It should be explained that these circuits are used to allow users temporary timed access to a 24-hour protected entry point without the alarm activating.

In accordance with BS8243 the new setting and un-setting process for intruder alarms should be explained. This should include the use of set shunt circuits, timed entry/exit and final exit settings of an intruder alarm circuit.

Finally the use of normally open and normally closed electronic switches, relays and magnetic reed switches that are used in intruder alarm systems should be covered.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Outcome 3

This Outcome covers the types of detectors currently used in intruder and hold-up alarm systems and how they operate.

Learners should have an understanding of the different types of deliberately operated devices used in intruder and hold-up alarm systems, their operation and limitations. Different types of deliberately operated devices: panic alarm buttons, hold-up devices, portable hold-up devices and door contacts. Learners should be able to explain how they operate and identify the limitations of their performance, for example, their weaknesses and how they can be overcome.

Learners should have an understanding of the operation and different grades of automatic sensors. Types of sensors that could be referred to include passive infra red detectors, dual detectors, shock sensors, vibration sensors, break glass detectors.

With regard to the automatic sensors used in the industry, learners should understand the different modes of operation including passive infra-red detection, microwave, dual technology, tri-motion detection and vibration technology and the importance in following a manufacturer's technical guidance when siting and installing such devices.

Outcome 4

This Outcome covers the types and functions of both intruder and hold-up alarm control panels.

This Outcome is designed to give learners an understanding of the functions that are available to them as an installer and user of control indicating equipment and detection devices in both conventional and multiplex intruder and hold-up alarm systems.

Learners should have an understanding of the two main types of control equipment - conventional and multiplex — their use and application. The differences between the two should be explained including:

- ◆ Costing
- ◆ Circuitry
- ◆ Devices
- ◆ Installation types
- ◆ Grading

Learners should be able to identify the common functions and parts of intruder and hold-up alarm control equipment, (step down transformer, fuses, AC input, DC output, AUX terminals, entry time, exit time, bell delay, bell time, outputs, communications, zone terminals, programming functions, etc).

In relation to the control panels learners should know the limitations of the onboard power supplies used with regard to loading. Learners should have an understanding of the requirements for additional power supplies and how they are integrated into the system.

Higher National Unit Support Notes (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Outcome 5

This Outcome covers the basic purpose of input and output functions on an intruder and hold-up alarm system, including warning devices and communication outputs.

This Outcome is designed to give learners a better understanding of the operation and use of input and output functions on both intruder and hold-up alarm systems.

Learners should understand the functions of inputs in intruder and hold-up alarm systems and how an input is anything terminated into the control equipment that can change how the panel operates. For example, detectors connected into zone terminals.

Learners should be able to describe the operation of warning devices used in intruder and hold-up alarm systems, including the different types found in the security industry, for example, self-actuating bell and self-contained bells.

Finally, learners should understand the use of the output function on intruder and hold-up alarm systems.

The following output functions of control panels should be explained correctly:

- ◆ Walk tests
- ◆ Set/latch lines
- ◆ Set/unset indicators
- ◆ Communicators
- ◆ Lighting circuits
- ◆ Sounders
- ◆ Strobes

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 mandatory in the PDA in Providing Electronic Fire and Security Systems and is designed to give learners the underpinning knowledge and understanding 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: Intruder and Hold-Up Alarm Systems Installation (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 6	Plan the installation of electronic security systems
SFS SYS 8	Make preparations and arrangements to install electronic security systems
SFS SYS 10	Install electronic security systems
SFS SYS 11	Test and confirm operation of electronic security systems

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

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: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

A range of different assessment methods could be used. 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: Intruder and Hold-Up Alarm Systems Installation (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* (Oral and Written Communication), *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: Intruder and Hold-Up Alarm Systems Installation (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. Researching company policy 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 learn 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

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General information for learners

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

This section 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 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 of intruder and hold-up alarm systems and the regulations and standards that apply to this discipline.

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 Explain the current standards and industry codes of practice relating to intruder and hold-up alarm systems design, installation and commissioning.
- 2 Describe the types of detection circuits used within intruder and hold-up alarm systems.
- 3 Explain the types and features of detectors currently used within intruder and hold-up alarm systems.
- 4 Explain the types and functions of intruder and hold-up alarm control panels.
- 5 Explain the basic purpose, input and output functions and warning devices of intruder and hold-up alarm 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.

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 (Oral and Written Communication), 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 could discuss your research findings.

General information for learners (cont)

Unit title: Electronic Fire and Security Systems: Intruder and Hold-Up Alarm Systems Installation (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. 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. 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. Researching company policy 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: Intruder and Hold-Up Alarm Systems Installation (SCQF level 6)

Other Essential Skills developed through the completion of this Unit

- ◆ Time Management: through the completion of projects and research tasks 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 gives opportunities to apply for professional recognition through the Institute of Engineering Technology and successful recognition will result in the EngTech qualification being awarded.