

# FIRE, EMERGENCY AND SECURITY SYSTEMS TECHNICIAN APPRENTICESHIP STANDARD

Standard Code ST0189  
Course Level 3  
Block Release  
Location: Newark  
Funding Level £18000  
Duration 39mths including EPA

## *Course Description*

Fire, Emergency and Security Systems Technicians design, install, commission and maintain electronic systems in and outside simple and complex premises to protect individuals, homes and properties from risk and danger. Systems include fire, security and emergency systems to detect intrusion, provide surveillance, monitor and control access to buildings, properties and sites or to detect fire and emergencies.

Skills include interconnection of equipment, programming, verifying performance/fault finding and testing and maintaining. Technicians will carry out planned jobs to install new systems, modify and maintain existing systems as well as respond to call-outs to repair faulty systems where they will utilise their problem-solving skills. They will take a professional approach to customer service skills which include being presentable, tidy and respectful as they can often find themselves working in and outside customers' homes as well as in and outside business premises.

It is important for Fire, Emergency and Security Systems Technicians to be able to work independently or as part of a team and use their knowledge and skills to ensure systems have been appropriately selected and installed and maintained to a professional industry standard, often without any supervision, and done so in a safe, efficient and economical manner to minimise waste.

## **Off the Job Training**

A key requirement of an Apprenticeship is Off-the-job training. This must make up at least 20% of the apprentice's contracted hours, over the total duration of the apprentice's planned training period. Off-the-job training must be directly relevant to the apprenticeship standard and must take place within the apprentice's normal working hours.

The new learning must be documented and reflected on through the Learner Journal on their e-portfolio.

## **Entry Requirements**

Because of the technical nature of the course, Lincoln College are only accepting candidates with a minimum grade 4 or C in English and Maths. Exceptionally candidates who do not possess these grades may be accepted but would need to demonstrate they are able to achieve these prior to completion of the apprenticeship. Candidates are expected to demonstrate some practical aptitude, the ability to demonstrate analytical skills and a capacity for mechanical reasoning. Due to the nature of the industry, employers may have extra stipulations which they apply when interviewing candidates. Apprentices will require access to a tablet/computer to access their e-portfolio.

## **Knowledge, Skills and Behaviours**

### **KNOWLEDGE**

#### **Health and Safety**

- Health and safety legislation, codes of practice and safe working practices.

#### **Electrical and electronic principles**

- Installation and testing techniques for electrical and electronic components, equipment and control systems for fire, emergency and security systems.

#### **Practices and procedures**

- Fundamental principles and quality processes associated with industry/ company codes of practices.

#### **Core Systems**

- Fundamental design criteria, installation, commissioning and maintenance of fire, emergency, security systems and components.

#### **System technologies**

- How to store, retrieve, manipulate, transmit or receive data/information electronically in a digital form across a range of ICT applications (e.g. personal computers, digital transmission over IP, email, mobile communication technology).

#### **Environmental principles**

- Compliance to environmental legislation and the impact of processes and technologies associated with fire, emergency and security systems.

## **Customer service**

- Principles of high-quality customer service and the needs of others.

## **Communication**

- Different communication styles, how to communicate in a clear, articulate and appropriate manner and how to adapt communication style to suit different situations.

## **Commercial awareness**

- Commercial risks and responsibilities.

## **SKILLS**

### **Working safely**

- Operate in a safe working manner by adhering to health and safety legislation, codes of practice and applying safe working practices.

### **Core systems techniques**

- Contribute to the application of design, planning, installation, testing, commissioning, maintenance, fault diagnosis, service and repair and electrical and electronic techniques on fire, emergency and security systems.

### **System technologies**

- Operate a range of ICT equipment and systems to store, retrieve, manipulate, transmit or receive digital data and electronic information in applications and environments applicable to the role.

### **Supervisory**

- Take responsibility for own work and safety and welfare of others. Oversee and organise the programme of work and work environment. Carry out work and manage resources in an environmentally friendly manner.

## **BEHAVIOURS**

### **Honesty and Integrity**

- Develop and retain trust with customers and colleagues by undertaking responsibilities in an ethical and empathetic manner.

### **Dependable and responsible**

- Show commitment through being punctual, reliable, diligent and professional. Take responsibility for own judgements and actions to achieve quality focussed outcomes.

### **Positive can-do attitude**

- Demonstrate drive and flexibility in fulfilling requirements of role.

### **Openness to learning**

- Take responsibility and fulfil own development and the needs of others. Keep up-to-date with best practice. Maintain continuous professional development.

### **Work with others**

- Work productively and engage with colleagues, clients, other trades, suppliers and the public.

## Safe and Sustainable

- Take responsibility for promoting a healthy and safe working environment.
- Give consideration to appropriate use of resources and own actions taking into account the impact on environmental, social and economic factors.

In addition to the core skills, knowledge and behaviour requirements, apprentices must choose one of the following options:

### Options:

1. **Fire:** Ideal for an apprentice who works for a company who specialise in Fire alarm installations only.

#### Knowledge:

- The relationship of fire detection and alarms to the fire industry.
- The principles and features for design criteria and the methods of surveying new and existing systems.
- The planning and project management for system installation, commissioning and handover.
- The preventative and corrective maintenance of fire detection and alarm systems, emergency systems and components.

#### Skills:

- Apply and implement system design, planning, installation, testing, commissioning and handover.
- Carry out preventative and corrective maintenance, diagnose and repair faults of fire detection, alarm and other emergency systems and components.

2. **Security:** Ideal for the apprentice who will install Access Control, CCTV and Intruder Alarms but not Fire.

#### Knowledge:

- The requirement and implementation of security risk assessments, the principles, functions and operation for design criteria.
- The planning and project management for system installation, commissioning and handover.
- The preventative and corrective maintenance of Intruder and hold up alarms, access Control, video surveillance (CCTV) and other electronic security systems and components.

#### Skills:

- Apply and implement system design, planning, installation, testing, commissioning and handover.
- Carry out preventative and corrective maintenance.
- Diagnose and repair faults of Intruder and holdup alarms, access Control, video surveillance (CCTV) and other electronic security systems and components.

3. **Fire and Security:** This pathway combines the two to create the largest of the three pathways. Apprentices undertaking this pathway will have a higher workload than the singular pathways.

**Knowledge:**

- The relationship of fire detection and security alarms to the fire and security industry and the requirement and implementation of security risk assessments.
- The principles, features, functions and operation for design criteria, and the methods of surveying new and existing systems.
- The planning and project management for systems installation, commissioning and handover.
- The preventative and corrective maintenance of fire detection and alarm systems, emergency systems and components, Intruder and hold up alarms, Access Control, video surveillance (CCTV) and other electronic security systems and components.

**Skills:**

- Apply and implement system design, planning, installation, testing, commissioning and handover.
- Carry out preventative and corrective maintenance, diagnose and repair faults of fire detection and alarm, and other emergency systems and components, Intruder and holdup alarms, Access Control, video surveillance (CCTV) and other electronic security systems and components.

### **Assessment**

Assessment is done through a combination of practical tasks, written assignments, oral discussions and online tests throughout the programme. To ensure that we can support you to meet these, we will complete an in-depth initial skills analysis to ensure that we can tailor our delivery to meet these unique requirements. We will then use the most relevant delivery methods to support your learners which include:

- One to one coaching from a dedicated, professional assessor/instructor allocated to the learner for the duration of the programme.
- Work based assignments and projects to be completed in an e-portfolio.
- Knowledge – Skills & Behaviours.
- Job shadowing and mentoring.
- Review of progress every 4 – 10 weeks.
- Independent learning and research as directed by the assessor/instructor.

### **Year 1**

- Health and Safety (1-week block).
- Basic Electrical Principles (1-week block plus E-learning course with exam).
- Workshop Introduction (1-week block overview of systems).
- Introduction to Security (1-week block with written exam).
- E-Learning courses issued for major disciplines (to be completed over years 1&2).
- Customer Service Skills (3-day block).
- Positive Professional Image (2 days).
- End of year overview (1-week block).

## Year 2

- Depending on pathway chosen:
- Intruder Alarm theory and practical (1-week block).
- CCTV Systems theory and practical (1-week block).
- Fire Alarm systems Installation (1-week block, 4 weeks if fire only pathway).
- Access Control systems Installation (1-week block).
- System Planning and Design (1-week block).
- End of year overview (1-week block).

## Year 3

- Advanced Electrical Principles (2 weeks blocks, 2 separate visits with exam).
- System Commissioning and Regulations (1-week block).
- System Maintenance and Servicing (1-week block).
- Fault Finding and signalling (1-week block).

## **End Point Assessment**

On completion of the on-programme learning, the apprentice will undertake an End Point Assessment to confirm competency of knowledge, skills and behaviours embedded within this standard. This can only take place when all three parties; employer, provider and apprentice, confirm candidate readiness at a gateway meeting.

The end point assessment is independent and will be carried out at a designated assessment centre. The process comprises of:

- a controlled theory test.
- a practical skills test over two days.
- a professional discussion.

The purpose is to confirm that the apprentice is fully competent and can work safely as a Fire, Emergency and Security Systems Technician.

## **Qualifications**

By completion of this apprenticeship the candidate will have satisfied the requirements for registration as EngTech by the Engineering Council

## **Fees**

As an Apprentice, you will pay no course fees. However, your employer may have to pay towards your training as well as providing you with a wage. All Apprentices must receive a minimum wage of £4.30 per hour within their first year of training from their employer, although they can, and often do, pay more. In the second and subsequent years of an Apprenticeship programme, the national minimum wage for your age would apply.

If you are an employer and want to find out more information regarding employer contributions and any further costs related to the Apprenticeship programme, please contact our dedicated Apprenticeship team at [employers@lincolncollege.ac.uk](mailto:employers@lincolncollege.ac.uk)

## ***Business Benefits***

Employers have designed the Apprenticeship Standards to meet the needs of the sector and industry. Ensuring they include:

- Relevant Knowledge, skills and behaviours ensure that the Standard is relevant to the occupation.
- Widening participation Apprenticeship standards provide opportunities to employees that may not previously have been available.
- Development tools A cost effective way to train your employees to undertake specific roles in your business.
- Return on Investment On average, an apprentice who has completed their course will increase business productivity by £214 per week (CEBR, 2015).