The Further Education and Training Awards Council (FETAC) was set up as a statutory body on 11 June 2001 by the Minister for Education and Science. Under the Qualifications (Education & Training) Act, 1999, FETAC now has responsibility for making awards previously made by NCVA.

Module Descriptor

Intruder Alarm and Access Control

Level 5    C20161

www.fetac.ie
Level 5 Module Descriptor

Summary of Contents

| Introduction | Describes how the module functions as part of the national vocational certificate framework. |
| Module Title | Indicates the module content. This title appears on the learner’s certificate. It can be used to download the module from the website www.fetac.ie. |
| Module Code | An individual code is assigned to each module; a letter at the beginning denotes a vocational or general studies area under which the module is grouped and the first digit denotes its level within the national vocational certificate framework. |
| Level | Indicates where the module is placed in the national vocational certificate framework, from Level 3 to Level 6. |
| Credit Value | Denotes the amount of credit that a learner accumulates on achievement of the module. |
| Purpose | Describes in summary what the learner will achieve on successfully completing the module and in what learning and vocational contexts the module has been developed. Where relevant, it lists what certification will be awarded by other certification agencies. |
| Preferred Entry Level | Recommends the level of previous achievement or experience of the learner. |
| Special Requirements | Usually ‘none’ but in some cases detail is provided here of specific learner or course provider requirements. There may also be reference to the minimum safety or skill requirements that learners must achieve prior to assessment. |
| General Aims | Describe in 3-5 statements the broad skills and knowledge learners will have achieved on successful completion of the module. |
| Units | Structure the learning outcomes; there may be no units. |
| Specific Learning Outcomes | Describe in specific terms the knowledge and skills that learners will have achieved on successful completion of the module. |
| Portfolio of Assessment | Provides details on how the learning outcomes are to be assessed. |
| Grading | Provides details of the grading system used. |
| Individual Candidate Marking Sheets | List the assessment criteria for each assessment technique and the marking system. |
| Module Results Summary Sheet | Records the marks for each candidate in each assessment technique and in total. It is an important record for centres of their candidate’s achievements. |
| Appendices | Can include approval forms for national governing bodies. |
| Glossary of Assessment Techniques | Explains the types of assessment techniques used to assess standards. |
| Assessment Principles | Describes the assessment principles that underpin FETAC approach to assessment. |
Introduction

A module is a statement of the standards to be achieved to gain a FETAC award. Candidates are assessed to establish whether they have achieved the required standards. Credit is awarded for each module successfully completed.

The standards in a module are expressed principally in terms of specific learning outcomes, i.e. what the learner will be able to do on successful completion of the module. The other elements of the module - the purpose, general aims, assessment details and assessment criteria - combine with the learning outcomes to state the standards in a holistic way.

While FETAC is responsible for setting the standards for certification in partnership with course providers and industry, it is the course providers who are responsible for the design of the learning programmes. The duration, content and delivery of learning programmes should be appropriate to the learners’ needs and interests, and should enable the learners to reach the standard as described in the modules. Modules may be delivered alone or integrated with other modules.

The development of learners’ core skills is a key objective of vocational education and training. The opportunity to develop these skills may arise through a single module or a range of modules. The core skills include:

- taking initiative
- taking responsibility for one’s own learning and progress
- problem solving
- applying theoretical knowledge in practical contexts
- being numerate and literate
- having information and communication technology skills
- sourcing and organising information effectively
- listening effectively
- communicating orally and in writing
- working effectively in group situations
- understanding health and safety issues
- reflecting on and evaluating quality of own learning and achievement.

Course providers are encouraged to design programmes which enable learners to develop core skills.
Module Title: Intruder Alarm and Access Control

Module Code: C20161

Level: 5

Credit Value: 1 credit

Purpose:
This module is a statement of the standards to be achieved to gain a FETAC credit in Intruder Alarm and Access Control at Level 5.
This module has been designed to enable the learner to understand the concepts and develop the skills required to install intruder alarms and access control systems. Learners who successfully complete the module will also satisfy one of the criteria for membership of the Security Institute of Ireland.
Course providers are responsible for designing learning programmes which are consistent with the learning outcomes and appropriate to the learners interests and needs.

Preferred Entry Level:
Level 4 Certificate, Leaving Certificate or equivalent qualifications and/or relevant life and work experiences.

Special Requirements:
Centres should ensure that candidates for this module or for the certificate in Security Systems Technology have been assessed for colour blindness.

General Aims:
Learners who successfully complete this module will:

8.1 appreciate the historical development of intruder alarm systems
8.2 understand the various standards and regulations governing and guiding the industry
8.3 acquire the skills to install a range of intruder alarm and access control systems
8.4 appreciate the technology involved with systems
8.5 understand the requirements for programming and commissioning systems.
The specific learning outcomes are grouped into 5 units.

Unit 1: Historical Development

Learners should be able to:

10.1.1 list the range of system types within the security technology sector of the industry
10.1.2 state the purpose and benefits of technology based security systems
10.1.3 summarise the historical developments of the security technology industry in Ireland
10.1.4 source information on existing and proposed technology designed for the security industry
10.1.5 outline the benefits of security technology systems to the consumer.

Unit 2: Standards and Regulations

Learners should be able to:

10.2.1 interpret the principal aspects of the Irish Standard (IS 199) for Intruder Alarm Systems as they effect the installer
10.2.2 outline the relevant contents of Irish Standard (IS228) for Alarm Monitoring Centres
10.2.3 explain the purpose of the Garda policy for false alarms
10.2.4 outline the requirements for connecting a system to the public telephone network
10.2.5 outline the key elements of the European Standards for the Installation, Maintenance and Monitoring of Systems
10.2.6 outline the functions and responsibilities of a National Standards Authority of Ireland inspector
10.2.7 source information on standards and regulations
10.2.8 outline the function of trade associations and representative bodies associated with the sector.
Unit 3  Intruder Alarm Installation

Learners should be able to:

10.3.1  list the principle components of an intruder alarm system

10.3.2  describe the function of the following devices
   • passive infra red (wide angle/corridor/curtain lens)
   • duel technology devices
   • inertia or seismic detectors
   • magnetic contact
   • panic attack button (single and double push)

10.3.3  outline the common causes and recommended remedies for false alarms

10.3.4  demonstrate the ability to:
   • fit a range of devices
   • connect a range of devices to the control equipment
   • connect a remote keypad to the control equipment

10.3.5  describe the level of protection offered by a range of detectors

10.3.6  interpret the information contained in a sample installation specification

10.3.7  explain the value of a range of resistors

10.3.8  outline the recommendations and regulations for the correct location and fixing of warning and signalling equipment

10.3.9  explain the following terms:
   • bell test
   • soak test
   • walk test
   • test call

10.3.10 list the advantages and disadvantages in the use of outdoor detection devices (precautions re siting, environment etc.)

10.3.11 describe the main use of warning devices e.g. bell, siren, horn, buzzer, low voltage and mains, strobe light, flood light

10.3.12 explain the use of the following as they relate to remote transmission of system signals:
   • digital communicator
   • radio telemetry
   • direct line
   • public service telephone network.
Unit 4  Intruder Alarm Programming and Commissioning

Learners should be able to:

10.4.1 outline the principles of modern microprocessor based intruder alarm equipment

10.4.2 explain the following terms:
   • set/armed
   • un-set
   • inhibit
   • enable a zone
   • part guard

10.4.3 recognize the security value in the use of numeric codes for setting and un-setting systems

10.4.4 outline the benefits in the use of operator and user codes

10.4.5 program the following:
   • operator and engineer codes
   • exit / entry time
   • bell cut out time
   • gross attack level
   • pulse count level

10.4.6 program the following to zones:
   • tamper
   • alarm
   • fire
   • panic attack button
   • entry and exit

10.4.7 list the zones which may not be inhibited (panic attack/medical alert/fire)

10.4.8 list the default settings of a sample panel

10.4.9 program a digital communicator

10.4.10 use a multimeter to check the integrity of wiring and voltages throughout a system

10.4.11 list alarm conditions and codes associated with the use of a digital communicator

10.4.12 outline the functions of, and benefits in the use of, an alarm monitoring central station

10.4.13 outline the testing facilities incorporated within the modern system

10.4.14 outline the benefits in the use of the systems memory facility to assist with testing, fault finding and maintenance
10.4.15 outline the procedures for the demonstrating and commissioning a system for the consumer (part guard/set/un-set/keypad menu/zone allocation/zone identification/various codes used while within/when entering/when leaving/action on activation/action on fault)

10.4.16 outline the benefits of regular maintenance and maintenance contracts to the consumer

10.4.17 compile a report on problems or faults identified within a system.

Unit 5 Access Control

Learners should be able to:

10.5.1 summarise the principles of electronic access control

10.5.2 list a range of environments where access control systems are used (doors, gates, barriers, turnstiles)

10.5.3 explain the three stages of access control:
   • identification – biometrics, code, key, token, card
   • decision – control, brain, programmed electronic unit which verifies, interprets
   • action – releases, opens, as result of signal from decision making unit

10.5.4 explain the principle components of an access control system (lock, receiver, reader, keypad, screened cable, power supply unit)

10.5.5 explain the terms:
   • magstripe card
   • proximity
   • biometrics

10.5.6 outline the security weakness of the decision making element being contained within the reader or keypad

10.5.7 summarise the security value of a range of access control system types

10.5.8 explain the difference between mortice release and rim release

10.5.9 describe the following system types:
   • stand alone systems
   • networked systems
   • computer based systems

10.5.10 demonstrate the ability to:
   • fit the principle components of a stand alone system
• connect a card, keypad and proximity stand alone system
• program a card, keypad and proximity stand alone system

10.5.11 explain the principles of programming a networked system
10.5.12 list the primary components of an electric lock
10.5.13 explain the principles of magnetic releasing units
10.5.14 explain the use of an exit button
10.5.15 summarize the use of timers and time zones within access control systems
10.5.16 draw a wiring diagram for a standard (specified) system
10.5.17 state how information gathered by an access control system can be stored/recorded.

11 Portfolio of Assessment

Please refer to the glossary of assessment techniques and the note on assessment principles at the end of this module descriptor.

All assessment is carried out in accordance with FETAC regulations.

Assessment is devised by the internal assessor, with external moderation by FETAC.

Summary

<table>
<thead>
<tr>
<th>Skills Demonstration</th>
<th>60%</th>
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</thead>
<tbody>
<tr>
<td>Examination (Theory-Based)</td>
<td>40%</td>
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</table>

11.1 Skills Demonstration

In one or more skills demonstrations, candidates will be observed carrying out each of the following practical tasks:

Task 1
Programming and connecting a range of devices and a remote keypad to the control equipment and testing for integrity of connections and secure installation.

Task 2
(a) Programming operator and engineer codes, exit/entry time, bell cut out time, gross attack level, pulse count level;
(b) Programming the following to zones: tamper, alarm, fire, panic attack button, entry and exit.

Task 3
Fitting the principal components of a stand-alone system, connecting and programming a card, keypad and proximity stand-alone system.
The internal assessor will test candidates on their understanding of the features, functions and other aspects of intruder alarm and access control systems.

Candidates will demonstrate adherence to safe working practices and maintain a clean and tidy work area throughout the skills demonstration. They will also maintain a record of measurements/observations or other relevant information as part of the skills demonstration.

The skills can be assessed at any time throughout the learning process.

11.2 Examination

The internal assessor will devise a theory-based examination that assesses candidates’ ability to recall and apply theory and understanding, requiring responses to a range of question types, short answer and structured. These questions may be answered in different media such as in writing or orally.

The examination will be based on a range of specific learning outcomes and will be 1 hour 30 minutes in duration.

The format of the examination will be as follows:

Section A
12 short answer questions
Candidates are required to answer 10 (4 marks each)

Section B
3 structured questions
Candidates are required to answer 2 (20 marks each).

12 Grading

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Pass</td>
<td>50 - 64%</td>
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<tr>
<td>Merit</td>
<td>65 - 79%</td>
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<tr>
<td>Distinction</td>
<td>80 - 100%</td>
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Candidate Name: ___________________________  PPSN: ___________________________
Centre: ____________________________________________  Centre No.: ________

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Maximum Mark</th>
<th>Candidate Mark</th>
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<tbody>
<tr>
<td>Skills Demonstration</td>
<td></td>
<td>Task 1  Task 2 Task 3</td>
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<tr>
<td>• appropriate preparation and planning of task</td>
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<tr>
<td>• effective execution of task resulting in functional finished product</td>
<td>20</td>
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<td>• careful use of tools and equipment and maintenance of working area</td>
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<tr>
<td>• thorough understanding of features, functions and other aspects of CCTV system</td>
<td>10</td>
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Subtotal 40

TOTAL MARKS 120

This mark should be transferred to the Module Results Summary Sheet

Internal Assessor’s Signature: ___________________________  Date: __________

External Authenticator’s Signature: ___________________________  Date: __________
## Intruder Alarm and Access Control

C20161

Examination (Theory-Based) 40%

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Maximum Mark</th>
<th>Candidate Mark</th>
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<tbody>
<tr>
<td><strong>Section A: short answer questions</strong></td>
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<tr>
<td>12 short answer questions, answer any 10 (4 marks each)</td>
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<tr>
<td>(Indicate questions answered)</td>
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<td>Question No.:*</td>
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Subtotal 40

| **Section B: structured questions** | | |
| 3 structured questions, answer any 2 (20 marks each) | | |
| (Indicate questions answered) | | |
| Question No.:* | | |
| | | |
| | | |

Subtotal 40

**TOTAL MARKS** 80

This mark should be transferred to the Module Results Summary Sheet

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**Internal Assessor’s Signature:** ________________________________  **Date:** __________

**External Authenticator’s Signature:** ____________________________  **Date:** __________

* The internal assessor is required to enter here the question numbers answered by the candidate.
# FETAC Module Results Summary Sheet

**Module Title:** Intruder Alarm and Access Control  
**Module Code:** C20161

<table>
<thead>
<tr>
<th>Assessment Marking Sheets</th>
<th>Mark Sheet 1</th>
<th>Mark Sheet 2</th>
<th>Total Marks</th>
<th>Total ÷ 2</th>
<th>Grade*</th>
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<tbody>
<tr>
<td>Maximum Marks per Marking Sheet</td>
<td>120</td>
<td>80</td>
<td>200</td>
<td>100%</td>
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</table>

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<tr>
<th>Candidate Surname</th>
<th>Candidate Forename</th>
<th>Mark Sheet 1</th>
<th>Mark Sheet 2</th>
<th>Total Marks</th>
<th>Total ÷ 2</th>
<th>Grade*</th>
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**Signed:**  
**Internal Assessor:**  
**Date:**  

This sheet is for internal assessors to record the overall marks of individual candidates. It should be retained in the centre. The marks awarded should be transferred to the official FETAC Module Results Sheet issued to centres before the visit of the external Authenticator.

Grade*  
D: 80 - 100%  
M: 65 - 79%  
P: 50 - 64%  
U: 0 - 49%  
W: candidates entered who did not present for assessment
Glossary of Assessment Techniques

Assignment
An exercise carried out in response to a brief with specific guidelines and usually of short duration.

Each assignment is based on a brief provided by the internal assessor. The brief includes specific guidelines for candidates. The assignment is carried out over a period of time specified by the internal assessor.

Assignments may be specified as an oral presentation, case study, observations, or have a detailed title such as audition piece, health fitness plan or vocational area profile.

Collection of Work
A collection and/or selection of pieces of work produced by candidates over a period of time that demonstrates the mastery of skills.

Using guidelines provided by the internal assessor, candidates compile a collection of their own work. The collection of work demonstrates evidence of a range of specific learning outcomes or skills. The evidence may be produced in a range of conditions, such as in the learning environment, in a role play exercise, or in real-life/work situations.

This body of work may be self-generated rather than carried out in response to a specific assignment eg art work, engineering work etc

Examination
A means of assessing a candidate’s ability to recall and apply skills, knowledge and understanding within a set period of time (time constrained) and under clearly specified conditions.

Examinations may be:

- practical, assessing the mastery of specified practical skills demonstrated in a set period of time under restricted conditions
- oral, testing ability to speak effectively in the vernacular or other languages
- interview-style, assessing learning through verbal questioning, on one-to-one/group basis
- aural, testing listening and interpretation skills
- theory-based, assessing the candidate’s ability to recall and apply theory, requiring responses to a range of question types, such as objective, short answer, structured, essay. These questions may be answered in different media such as in writing, orally etc.

Learner Record
A self-reported record by an individual, in which he/she describes specific learning experiences, activities, responses, skills acquired.

Candidates compile a personal logbook/journal/diary/daily diary/record/laboratory notebook/sketch book.
The logbook/journal/diary/daily diary/record/laboratory notebook/sketch book should cover specified aspects of the learner’s experience.
**Project**

*A substantial individual or group response to a brief with guidelines, usually carried out over a period of time.*

Projects may involve:

- research – requiring individual/group investigation of a topic
- process – e.g. design, performance, production of an artefact/event

Projects will be based on a brief provided by the internal assessor or negotiated by the candidate with the internal assessor. The brief will include broad guidelines for the candidate. The work will be carried out over a specified period of time.

Projects may be undertaken as a group or collaborative project, however the individual contribution of each candidate must be clearly identified.

The project will enable the candidate to demonstrate: (*some of these – about 2-4*)

- understanding and application of concepts in (specify area)
- use/selection of relevant research/survey techniques, sources of information, referencing, bibliography
- ability to analyse, evaluate, draw conclusions, make recommendations
- understanding of process/planning implementation and review skills/planning and time management skills
- ability to implement/produce/make/construct/perform
- mastery of tools and techniques
- design/creativity/problem-solving/evaluation skills
- presentation/display skills
- team working/co-operation/participation skills.

**Skills Demonstration**

*Assessment of mastery of specified practical, organisational and/or interpersonal skills.*

These skills are assessed at any time throughout the learning process by the internal assessor/another qualified person in the centre for whom the candidate undertakes relevant tasks.

The skills may be demonstrated in a range of conditions, such as in the learning environment, in a role-play exercise, or in a real-life/work situations.

The candidate may submit a written report/supporting documentation as part of the assessment.

Examples of skills: laboratory skills, computer skills, coaching skills, interpersonal skills.
FETAC Assessment Principles

1  Assessment is regarded as an integral part of the learning process.

2  All FETAC assessment is criterion referenced. Each assessment technique has **assessment criteria** which detail the range of marks to be awarded for specific standards of knowledge, skills and competence demonstrated by candidates.

3  The mode of assessment is generally local i.e. the assessment techniques are devised and implemented by internal assessors in centres.

4  Assessment techniques in FETAC modules are valid in that they test a range of appropriate learning outcomes.

5  The reliability of assessment techniques is facilitated by providing support for assessors.

6  Arising from an extensive consultation process, each FETAC module describes what is considered to be an optimum approach to assessment. When the necessary procedures are in place, it will be possible for assessors to use other forms of assessment, provided they are demonstrated to be valid and reliable.

7  To enable all learners to demonstrate that they have reached the required standard, candidate evidence may be submitted in written, oral, visual, multimedia or other format as appropriate to the learning outcomes.

8  Assessment of a number of modules may be integrated, provided the separate criteria for each module are met.

9  Group or team work may form part of the assessment of a module, provided each candidate’s achievement is separately assessed.
The development of the National Qualifications Framework is funded by the Department of Education and Science with assistance from the European Social Fund as part of the National Development Plan 2000-2006.