

**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**

# **Green Building**

**Level 5    L22108**

**[www.fetac.ie](http://www.fetac.ie)**

## Level 5 Module Descriptor

### Summary of Contents

<b>6</b>	<b>Introduction</b>	Describes how the module functions as part of the national vocational certificate framework.
<b>7</b>	<b>Module Title</b>	Indicates the module content. This title appears on the learner's certificate. It can be used to download the module from the website <a href="http://www.fetac.ie">www.fetac.ie</a> .
<b>8</b>	<b>Module Code</b>	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.
	<b>Level</b>	Indicates where the module is placed in the national vocational certificate framework, from Level 3 to Level 6.
	<b>Credit Value</b>	Denotes the amount of credit that a learner accumulates on achievement of the module.
	<b>Purpose</b>	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.
	<b>Preferred Entry Level</b>	Recommends the level of previous achievement or experience of the learner.
	<b>Special Requirements</b>	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.
	<b>General Aims</b>	Describe in 3-5 statements the broad skills and knowledge learners will have achieved on successful completion of the module.
	<b>Units</b>	Structure the learning outcomes; there may be no units.
	<b>Specific Learning Outcomes</b>	Describe in specific terms the knowledge and skills that learners will have achieved on successful completion of the module.
	<b>Portfolio of Assessment</b>	Provides details on how the learning outcomes are to be assessed.
	<b>Grading</b>	Provides details of the grading system used.
	<b>Individual Candidate Marking Sheets</b>	List the assessment criteria for each assessment technique and the marking system.
	<b>Module Results Summary Sheet</b>	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.
	<b>Appendices</b>	Can include approval forms for national governing bodies.
	<b>Glossary of Assessment Techniques</b>	Explains the types of assessment techniques used to assess standards.
	<b>Assessment Principles</b>	Describes the assessment principles that underpin FETAC approach to assessment.

## Introduction

A module is a statement of the standards to be achieved to gain an 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.

<b>1</b>	<b>Module Title</b>	<b>Green Building</b>
<b>2</b>	<b>Module Code</b>	<b>L22108</b>
<b>3</b>	<b>Level</b>	<b>5</b>
<b>4</b>	<b>Credit Value</b>	<b>1 credit</b>
<b>5</b>	<b>Purpose</b>	<p>This module is a statement of the standards to be achieved to gain a FETAC credit in Green Building at Level 5.</p> <p>The module is designed to provide the learner with an understanding of the principles, practices and relevance of environmentally sustainable building and construction. It will enable learners to become more informed homeowners, and to be more aware of the choices available to them when designing or constructing a new house, as well as how those choices can best be used for both the benefit of the environment and of their own health.</p> <p>It is an elective module for the Level 5 Certificate in Practical Sustainability.</p>
<b>6</b>	<b>Preferred Entry Level</b>	Level 4 Certificate, Leaving Certificate or equivalent qualifications and/or relevant life and work experiences.
<b>7</b>	<b>Special Requirements</b>	None.
<b>8</b>	<b>General Aims</b>	<p><i>Learners who successfully complete this module will:</i></p> <p><b>8.1</b> develop an awareness of the environmental problems arising from conventional construction practices</p> <p><b>8.2</b> be familiar with the principles and practices of green building</p> <p><b>8.3</b> be familiar with the ‘palette’ of green building materials and techniques available</p> <p><b>8.4</b> understand how energy consumption in all stages of a building’s lifecycle can be minimised</p> <p><b>8.5</b> acquire the knowledge to be able to communicate their ideas to an architect and become a more informed participant in the process of the design of their own home.</p>

**9 Units                    The specific learning outcomes are grouped into 6 units**

<b>Unit 1</b>	<b>Green Building in Perspective</b>
<b>Unit 2</b>	<b>The Elements of a Green House</b>
<b>Unit 3</b>	<b>Choosing Your Materials</b>
<b>Unit 4</b>	<b>Designing for Energy Efficiency</b>
<b>Unit 5</b>	<b>Different Approaches to Meeting Housing Need</b>
<b>Unit 6</b>	<b>Approaching Design</b>
<b>Unit 7</b>	<b>Health and Safety</b>
<b>Unit 8</b>	<b>Practical EcoBuilding</b>

**10 Specific Learning Outcomes**

**Unit 1                    Green Building in Perspective**

*Learners should be able to:*

- 10.1.1**                    display an understanding of the environmental crisis and why a ‘greening’ of construction is important
- 10.1.2**                    outline the principles of green building
- 10.1.3**                    evaluate green building in an historical context
- 10.1.4**                    distinguish between a ‘green’ building and a conventional one

**Unit 2                    The Elements of a Green House**

*Learners should be able to:*

- 10.2.1**                    evaluate the different options available for the various elements of a house
- 10.2.2**                    select the most appropriate choice of material/technique for a given situation
- 10.2.3**                    justify their choices based on sustainability criteria
- 10.2.4**                    distinguish between the different elements of a house and how they are constructed.

**Unit 3                    Choosing Your Materials**

*Learners should be able to:*

- 10.3.1**                    distinguish between the range of green building materials available
- 10.3.2**                    summarise the benefits and the disadvantages of building practices such as strawbale building, earth construction and timber frame
- 10.3.3**                    justify the choice of a particular building material on ecological grounds

## **Unit 4            Designing for Energy Efficiency**

*Learners should be able to:*

- 10.4.1**            outline the ways in which energy is used in a building
- 10.4.2**            outline the principles of passive solar heating in buildings
- 10.4.3**            distinguish between the various solar water heating systems on the market
- 10.4.4**            select materials for a house based on their low levels of embodied energy
- 10.4.5**            identify the range of approaches that can be taken to reduce a house's energy consumption

## **Unit 5            Different Approaches to Meeting Housing Need**

*Learners should be able to:*

- 10.5.1**            explain how the conventional housing market excludes a significant proportion of the population
- 10.5.2**            list the different options available to the individual seeking to house themselves
- 10.5.3**            distinguish between social housing projects, housing co-operatives, eco-villages, self-build projects and others
- 10.5.4**            recognise the practicalities associated with the various option

## **Unit 6            Approaching Design**

*Learners should be able to:*

- 10.6.1**            analyse an existing 'green' building and identifying the thinking behind its design
- 10.6.2**            interpret patterns from the book '*A Pattern Language*' in relation to the design of an actual house
- 10.6.3**            outline a 'wish list' of elements for any house they may commission the design of in the future
- 10.6.4**            justify their choices of materials

## **Unit 7                   Health and Safety**

*Learners should be able to*

- 10.7.1**           Identify the adverse physical, chemical, biological and psychological effects of common hazards associated with the construction industry on the human body
- 10.7.2**           Recognise common hazard symbols and labels
- 10.7.3**           Know the rights and responsibilities of employers and employees as specified in the safety Health, and Welfare at Work Act.
- 10.7.4**           Recognise the dangers and hazards unique to the materials used in natural building
- 10.7.5**           Know how to co-ordinate and organise a building site in the best interests of health and safety

## **Unit 8                   Practical EcoBuilding**

*Learners should be able to*

- 10.8.1**           Know the correct mixes and methods for making clay plasters and cob mixes
- 10.8.2**           Build a section of cob, strawbale and cordwood wall
- 10.8.3**           Recognise whether a wall is plumb and well built
- 10.8.4**           incorporate window and door openings into a section of wall

## **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.

<b>Summary</b>	<b>Project</b>	<b>50%</b>
	<b>Assignment#1</b>	<b>30%</b>
	<b>Assignment#2</b>	<b>20%</b>

### **11.1   Project**

The internal assessor will devise a project brief that requires candidates to demonstrate

- understanding of the principles of green building
- a familiarity with the variety of techniques and materials available
- an ability to translate the principles of green building into an analysis of a 'green' building
- the ability to interpret the homeowners' decisions, choices, compromises and reflections

The project will focus on a broad range of specific learning outcomes from the full range of units.

Evidence presented will include

- a report which takes the form of a 'Biography of a House', taking one 'green' building as its subject. Learners will analyse the story of the building, how it was conceived, designed and constructed, with reference to the owners' experience

**11.2 Assignment #1** The internal assessor will devise a brief that requires the candidate to produce evidence that demonstrates an understanding and application of the subjects covered in units 1-4. The assignment will follow on from a site visit to a new housing development in the locality. Learners will write a report in the form of an assessment of the development visited from a green perspective, looking at the materials and the design used and setting out ways in which its environmental impact could be lessened.

**11.3 Assignment #2** The internal assessor will devise a brief that requires the candidate to produce evidence that demonstrates an understanding and application of the subjects covered in unit 3. Learners will prepare a factsheet is a particular technique used in natural building, giving information on its history, its pros and cons and any notable examples of it in the country.

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### **Grading**

**Pass 50 - 64%**

**Merit 65 - 79%**

**Distinction 80 - 100%**



<b>Individual Candidate Marking Sheet 1</b>	<b>Green Building L22108</b>  <b>Project 50%</b>
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**Candidate Name:** \_\_\_\_\_ **PPSN:** \_\_\_\_\_

**Centre:** \_\_\_\_\_ **Centre No.:** \_\_\_\_\_

<b>Assessment Criteria</b>	<b>Maximum Mark</b>	<b>Candidate Mark</b>
<b>Project</b> <ul style="list-style-type: none"> <li>• clear identification of the owners' design considerations</li> <li>• detailed explanation of the construction process of the house</li> <li>• thorough understanding and application of the principles of green building</li> <li>• critical evaluation of the success or otherwise of the finished structure</li> <li>• coherent format of presentation</li> </ul>	<b>15</b>  <b>15</b>  <b>10</b>  <b>5</b>  <b>5</b>	
<b>TOTAL MARKS</b>  <i>This mark should be transferred to the Module Results Summary Sheet</i>	<b>50</b>	

**Internal Assessor's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**External Authenticator's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

<b>Individual Candidate Marking Sheet 2</b>	<b>Green Building L22100</b> <b>Assignment (2) 50%</b>
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**Candidate Name:** \_\_\_\_\_ **PPSN:** \_\_\_\_\_

**Centre:** \_\_\_\_\_ **Centre No.:** \_\_\_\_\_

<b>Assessment Criteria</b>	<b>Maximum Mark</b>	<b>Candidate Mark</b>
<b>Assignment 1</b> <ul style="list-style-type: none"> <li>critical evaluation of the environmental impacts of the housing development</li> <li>ideas for the ‘greening’ of the development clearly identified</li> <li>thorough understanding of the principles and ethics of green building</li> <li>effective and imaginative presentation</li> </ul> <p style="text-align: right;"><b>Sub-Total</b></p>	<p><b>10</b></p> <p><b>5</b></p> <p><b>5</b></p> <p><b>5</b></p> <p><b>25</b></p>	
<b>Assignment 2</b> <ul style="list-style-type: none"> <li>thorough investigation of topic using appropriate research</li> <li>comprehensive interpretation and analysis of information</li> <li>clear understanding and application of concepts in green building</li> <li>effective and imaginative presentation</li> </ul> <p style="text-align: right;"><b>Sub-Total</b></p>	<p><b>10</b></p> <p><b>5</b></p> <p><b>5</b></p> <p><b>5</b></p> <p><b>25</b></p>	
<p style="text-align: right;"><b>TOTAL MARKS</b></p> <p><i>This mark should be transferred to the Module Results Summary Sheet</i></p>	<b>50</b>	

**Internal Assessor’s Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**External Authenticator’s Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

FETAC Module Results Summary Sheet

Module Title:   Green Building

Module Code:   L22108

Assessment Marking Sheets

Mark Sheet 1
50

Mark Sheet 2
50

Total 100%

Grade*

Maximum Marks per Marking Sheet

*Candidate Surname*

*Candidate Forename*






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**

<b>Assignment</b>	<p><i>An exercise carried out in response to a brief with specific guidelines and usually of short duration.</i></p> <p>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.</p> <p>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.</p>
<b>Collection of Work</b>	<p><i>A collection and/or selection of pieces of work produced by candidates over a period of time that demonstrates the mastery of skills.</i></p> <p>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.</p> <p>This body of work may be self-generated rather than carried out in response to a specific assignment eg art work, engineering work etc</p>
<b>Examination</b>	<p><i>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.</i></p> <p>Examinations may be:</p> <ul style="list-style-type: none"><li>• practical, assessing the mastery of specified practical skills demonstrated in a set period of time under restricted conditions</li><li>• oral, testing ability to speak effectively in the vernacular or other languages</li><li>• interview-style, assessing learning through verbal questioning, on one-to-one/group basis</li><li>• aural, testing listening and interpretation skills</li><li>• 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.</li></ul>
<b>Learner Record</b>	<p><i>A self-reported record by an individual, in which he/she describes specific learning experiences, activities, responses, skills acquired.</i></p> <p>Candidates compile a personal logbook/journal/diary/daily diary/record/laboratory notebook/sketch book.</p> <p>The logbook/journal/diary/daily diary/record/laboratory notebook/sketch book should cover specified aspects of the learner's experience.</p>
<b>Project</b>	<p><i>A substantial individual or group response to a brief with guidelines, usually carried out over a period of time.</i></p> <p>Projects may involve:</p>

research – requiring individual/group investigation of a topic  
 process – eg 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.