

**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

Spreadsheet Methods

Level 5 B20028

September 2001

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 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.

1	Module Title	Spreadsheet Methods
2	Module Code	B20028
3	Level	5
4	Credit Value	1 credit
5	Purpose	<p>This module has been designed to provide extensive practical experience in the use of spreadsheet software in typical business and other activities.</p> <p>It provides the learner with an understanding of fundamental spreadsheet concepts, practical experience in spreadsheet design and implementation and an introduction to the use of macros and additional functions.</p> <p>This is one of the mandatory modules for the Level 5 Certificate Information Processing award.</p>
6	Preferred Entry Level	Level 4 Certificate, Leaving Certificate or equivalent qualifications and/or relevant life and work experiences.
7	Special Requirements	Centres wishing to provide this module must have access to suitable software.
8	General Aims	<p><i>Learners who successfully complete this module will:</i></p> <p>8.1 understand spreadsheets and their range of application</p> <p>8.2 design spreadsheets for a range of tasks</p> <p>8.3 create spreadsheets from design specification(s)</p> <p>8.4 utilise a wide range of functions, including macros and other functions</p> <p>8.5 create a spreadsheet, according to a given brief, under time constraints</p>

- 8.6 demonstrate personal initiative and resourcefulness in responding to spreadsheet assignments.
- 9 **Units** **The specific learning outcomes are grouped into 3 units.**
- Unit 1 **Basic Spreadsheet Concepts**
 Unit 2 **Spreadsheet Design and Implementation**
 Unit 3 **Macros and Additional Functions**
- 10 **Specific Learning Outcomes**
- Unit 1 **Basic Spreadsheet Concepts**
- Learners should be able to:*
- 10.1.1 identify applications suitable for a spreadsheet
- 10.1.2 define the following terms: spreadsheet, row, column, cell, label, value, formula
- 10.1.3 access a spreadsheet package
- 10.1.4 enter numeric and character data to a spreadsheet
- 10.1.5 enter formulae to generate results
- 10.1.6 replicate formulae over a range of cells using relative cell references
- 10.1.7 save the spreadsheet
- 10.1.8 make a backup of the spreadsheet within the package
- 10.1.9 load an existing spreadsheet
- 10.1.10 insert and delete rows and columns
- 10.1.11 adjust column width
- 10.1.12 format column entries (i.e. decimal, currency, alignment)
- 10.1.13 use the basic functions SUM, AVG
- 10.1.14 print a specified area of the spreadsheet

10.1.15 exit from a spreadsheet application using proper procedures.

Unit 2 **Spreadsheet Design and Implementation**

Learners should be able to:

10.2.1 create a design specification for a given spreadsheet application to include:

- data input and format
- data processing
- data output and its format

10.2.2 create a spreadsheet from a design specification

10.2.3 use absolute cell references

10.2.4 use protect/unprotect and hide/display facilities

10.2.5 use title freeze and split screen facilities

10.2.6 use the single condition IF function with relational operators: =, <, <=, >, >=, <>

10.2.7 use a selection of statistical functions (to include MAX, MIN, ABS, INT, SQR/SQRT, COUNT)

10.2.8 sort a spreadsheet on a selected key

10.2.9 create at least two basic graph types including bar and pie

10.2.10 save graphs to disk

10.2.11 retrieve graphs from disk

10.2.12 print graphs with appropriate titles and labels

10.2.13 print a spreadsheet in whole, in part, with values, with formulae with/without borders (row column identifiers).

Unit 3 **Macros and Additional Functions**

Learners should be able to:

10.3.1 use formulae containing both absolute and relative cell references

10.3.2 use multiple IF functions with logical operators AND, OR, NOT

- 10.3.3 use the LOOKUP function
- 10.3.4 toggle the recalculation of a spreadsheet
- 10.3.5 use financial functions - DEPRECIATION and NPV
- 10.3.6 perform calculations using DATE and TIME functions
- 10.3.7 create simple macros consisting of at least five commands
- 10.3.8 execute previously created macros.

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	Examination (Practical)	50%
	Project	50%

11.1 Examination

The internal assessor will devise a practical examination that assesses candidates' mastery of spreadsheet skills demonstrated in a set period of time and under restricted conditions.

The examination will be based on a range of specific learning outcomes and will be 2 hours in duration.

The format of the examination will be as follows:

The internal assessor will design specific tasks which will require candidates to demonstrate their ability to:

- create a spreadsheet consisting of at least 6 rows of data – to include both character and numeric types, at least one main heading, column/row headings, at least two different alignments and a range of cell formats e.g. currency, %, decimal
- insert the date from the computer clock
- generate formulae
- generate the following functions: SUM, AVERAGE, simple IF function, multiple IF function, LOOKUP function
- print specified area of the spreadsheet (values and formulae) with row and column identifiers

- edit the spreadsheet i.e. delete and insert rows and/or columns
- organise the spreadsheet or portion of the spreadsheet
- produce a chart or a macro
- print the spreadsheet, charts or macros
- save.

11.2 Project

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

- understanding and application of spreadsheet concepts
- ability to design, implement and modify a spreadsheet.

The project brief will focus on a broad range of specific learning outcomes and will require candidates to design, implement and modify a spreadsheet.

The spreadsheet should contain at least 6 rows of data to include both character and numeric types, at least one main heading, column/row headings, at least two different alignments and a range of cell formats e.g. currency, %, decimal.

Evidence for the design phase will include:

- a concise description of the problem and a proposed solution, identifying a source of data
- specifications for input data, processing required and output data
- specifications of format for all data e.g. alignments, column widths
- a design for a data capture form and the screen layout.

Evidence for the implementation phase will include:


- a spreadsheet structure, to include appropriate data, labels, formulae and functions
- a printout of the entire spreadsheet and a printout of the spreadsheet showing formula
- a printout of the spreadsheet after a variable has been changed
- use of a simple IF statement.

Evidence for the modification phase will include:

- suggested modifications or improvements to the original design.

12 Grading

Pass	50 - 64%
Merit	65 - 79%
Distinction	80 - 100%

Individual Candidate Marking Sheet 1		Spreadsheet Methods B20028 Examination (Practical) 50%
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Candidate Name: _____ **PPSN.:** _____

Centre: _____ **Centre No.:** _____

Assessment Criteria	Maximum Mark	Candidate Mark
Creating <ul style="list-style-type: none"> • spreadsheet accurately created • cells accurately formatted • formulae accurately applied • functions accurately applied • date from the computer clock accurately inserted 	20	
Edit <ul style="list-style-type: none"> • rows and/or columns accurately inserted • rows and/or columns accurately deleted 	10	
Organise <ul style="list-style-type: none"> • spreadsheet accurately organised 	5	
Chart or Macro <ul style="list-style-type: none"> • chart or macro accurately produced 	10	
Save and Print <ul style="list-style-type: none"> • spreadsheet, chart or macro appropriately saved • specified area of the spreadsheet (values and formulae) with row and column identifiers, and chart or macro accurately printed 	5	
TOTAL MARKS	50	
<i>This mark should be transferred to the Module Results Summary Sheet</i>		

Internal Assessor's Signature: _____ **Date:** _____

External Authenticator's Signature: _____ **Date:** _____

Individual Candidate Marking Sheet 2		Spreadsheet Methods B20028 Project 50%
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Candidate Name: _____ **PPSN.:** _____

Centre: _____ **Centre No.:** _____

Assessment Criteria	Maximum Mark	Candidate Mark
Design <ul style="list-style-type: none"> • project with aims clearly described • spreadsheet, data capture form and screen layout well designed • input data, required processing, output data appropriately specified • cell formats appropriately applied 	20	
Implementation <ul style="list-style-type: none"> • data and labels accurately inputted • formulae and functions accurately applied • variable change clearly demonstrated • versions of spreadsheet accurately saved and printed, showing the entire spreadsheet, the spreadsheet with the formulae, and after recalculation 	20	
Modifications <ul style="list-style-type: none"> • relevant modifications or improvements suggested 	10	
TOTAL MARKS <i>This mark should be transferred to the Module Results Summary Sheet</i>	50	

Internal Assessor's Signature: _____ **Date:** _____

External Authenticator's Signature: _____ **Date:** _____

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 – 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.

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