



**cetb**

Bord Oideachais agus  
Oiliúna Chorcaí

*Cork Education and  
Training Board*

**Cork Education and Training Board**

**Programme Module for  
Spreadsheet Methods**

**leading to**

**Level 5 QQI**

**Spreadsheet Methods 5N1977**

### Introduction

This programme module may be delivered as a standalone module leading to certification in a QQI minor award. It may also be delivered as part of an overall validated programme leading to a Level 5 QQI Certificate.

The teacher/tutor should familiarise themselves with the information contained in Cork Education and Training Board's programme descriptor for the relevant validated programme prior to delivering this programme module.

The programme module is structured as follows:

1. Title of Programme Module
2. QQI Component Title and Code
3. Duration in hours
4. Credit Value of QQI Component
5. Status
6. Special Requirements
7. Aim of the Programme Module
8. Objectives of the Programme Module
9. Learning Outcomes
10. Indicative Content
11. Assessment <ul style="list-style-type: none"> <li>a. Assessment Technique(s)</li> <li>b. Mapping of Learning Outcomes to Assessment Technique(s)</li> <li>c. Guidelines for Assessment Activities</li> </ul>
12. Grading
13. Learner Marking Sheet(s), including Assessment Criteria

### Integrated Delivery and Assessment

The teacher/tutor is encouraged to integrate the delivery of content where an overlap between content of this programme module and one or more other programme modules is identified. This programme module will facilitate the learner to develop the academic and vocational language, literacy and numeracy skills relevant to the themes and content of the module.

Likewise the teacher/tutor is encouraged to integrate assessment where there is an opportunity to facilitate a learner to produce one piece of assessment evidence which demonstrates the learning outcomes from more than one programme module. The integration of the delivery and assessment of level 5 Communications and level 5 Mathematics modules with that of other level 5 modules is specifically encouraged, as appropriate.

### Indicative Content

The indicative content in Section 10 does not cover all teaching possibilities. The teacher/tutor is encouraged to be creative in devising and implementing other approaches, as appropriate. The use of examples is there to provide suggestions. The teacher/tutor is free to use other examples, as appropriate. The indicative content ensures all learning outcomes are addressed but it may not

follow the same sequence as that in which the learning outcomes are listed in Section 9. It is the teacher's/tutor's responsibility to ensure that all learning outcomes are included in the delivery of this programme module.

<b>1. Title of Programme Module</b> Spreadsheet Methods
<b>2. Component Name and Code</b> Spreadsheet Methods 5N1977
<b>3. Duration in Hours</b> 150 Hours (typical learner effort, to include both directed and self-directed learning)
<b>4. Credit Value</b> 15 Credits
<b>5. Status</b> This programme module may be compulsory or optional within the context of the validated programme. Please refer to the relevant programme descriptor, Section 9 Programme Structure
<b>6. Special Requirements</b> Personal Computers with internet access and suitable spreadsheet software.
<b>7. Aim of the Programme Module</b> This programme module aims to to equip the learner with the knowledge, skill and competence to create and modify spreadsheets under supervision, using common spreadsheet features.
<b>8. Objectives of the Programme Module</b> <ul style="list-style-type: none"> <li>• To develop a fundamental understanding of spreadsheet concepts and their range of application. Gain extensive practical experience in spreadsheet design and implementation.</li> <li>• To explore spreadsheet software commonly used in business and other activities, and demonstrate initiative in responding to spreadsheet assessments.</li> <li>• To create an awareness and understanding of uses/functions of macros.</li> <li>• To assist the learner to develop the academic and vocational language, literacy and numeracy skills related to Spreadsheet Methods through the medium of the indicative content.</li> <li>• To enable the learner to take responsibility for his/her own learning.</li> </ul>

**9. Learning Outcomes of Level 5 Spreadsheet Methods 5N1977**

Learners will be able to:

1. Investigate a range of common uses for spreadsheets.
2. Explore key spreadsheet elements including cells, cell references, numeric, alpha, and alphanumeric data, formulae, functions, graphs and macros.
3. Demonstrate common spreadsheet usability features to include use of toolbars, window management, sorting, and filtering.
4. Use spreadsheet design features involving data and cell formatting techniques which enhance understanding and legibility.
5. Automate routine multi-step tasks through the creation, execution, and management of simple macros.
6. Print complete or partial sections of a spreadsheet, formatted fit for presentation.
7. Use advanced spreadsheet features including absolute and relative cell references, conditional IF statements, statistical, financial, and date and time functions.
8. Generate a variety of types of graphs, with appropriate titles and labels, from spreadsheet data.
9. Produce a spreadsheet, with minimal supervision, that meets a simple design specification and is fit for purpose.
10. Demonstrate personal initiative and resourcefulness in editing and amending spreadsheets to ensure they are fit for purpose.

**10. Indicative Content**

This section provides suggestions for programme content but is not intended to be prescriptive. The programme module can be delivered through classroom based learning activities, group discussions, one-to-one tutorials, field trips, case studies, role play and other suitable activities, as appropriate.

**Content of Course to achieve each learning outcome:**

1. Facilitate the learner to investigate a range of common uses for spreadsheets.
  - Investigate common uses for a spreadsheet and consider the advantages of using spreadsheets over alternative options
  - Investigate an application suitable for creating a spreadsheet
2. Explore with the learner the key spreadsheet elements including cells, cell references, numeric, alpha, and alphanumeric data, formulae, functions, graphs and macros.
  - Explore the following terms: spreadsheet, row, column, cell, cell reference, label, value, formula
  - Understand the name box, formula bar and auto fill
  - Understand how to enter numeric, character and alphanumeric data to a spreadsheet
  - Use formula to generate results using basic functions for example summation, division, addition and multiplication
  - Replicate formula over a range of cells using relative cell references and auto fill
  - Explore the uses of graphs and macros
3. Explore with the learner effective methods to demonstrate common spreadsheet usability features to include use of toolbars, window management, sorting, and filtering.
  - Save the spreadsheet, load an existing spreadsheet and exit from the application
  - Edit functions on a toolbar
  - Employ window management techniques to for example freezing panes, arranging windows and switching windows
  - Sort a spreadsheet on a selected key and using a custom sort

- Use filters to which may include numbers, text and colour and their related options for example equals, less than, greater than
4. Facilitate the learner to use spreadsheet design features involving data and cell formatting techniques which enhance understanding and legibility.
    - Recognise the feature available on toolbars
    - Insert and delete rows and columns
    - Adjust column width
    - Format column entries for example decimal, currency, alignment and date
  5. Facilitate the learner to automate routine multi-step tasks through the creation, execution, and management of simple macros.
    - Create simple macros consisting of at least five commands
    - Execute previously created macros
  6. Explore with the learner methods to print complete or partial sections of a spreadsheet, formatted fit for presentation.
    - Print a specified area of a spreadsheet using print area, orientation, scaling, margins and header and footers
    - Use sheet presentation features for printing titles, gridlines and row and column headings
    - Print a spreadsheet in whole, in part, with values, with formulae, with/without borders, gridlines and row and column identifiers
  7. Facilitate the learner to use advanced spreadsheet features including absolute and relative cell references, conditional IF statements, statistical, financial, and date and time functions.
    - Create formula using a variety of both absolute and relative cell referencing
    - Use the single condition IF function with relational operators for example =, <, <=, >, >=, <>
    - Use a selection of statistical functions for example maximum, minimum, average, median, mode, standard deviation
    - Use a nested IF functions with a logical operator AND, OR or NOT

- Use a financial functions for example depreciation or net present value
  - Use a lookup function for example the VLOOKUP and HLOOKUP functions
  - Perform a calculation using date and time functions for example NOW or TODAY
8. Facilitate the learner to generate a variety of types of graphs, with appropriate titles and labels, from spreadsheet data.
- Create at least two basic graph types for example bar and pie
  - Save and retrieve graphs
  - Print graphs with appropriate titles and labels
  - Create a graph from existing data
9. Enable the learner to produce a spreadsheet, with minimal supervision, that meets a simple design specification and is fit for purpose.
- Create a design specification for a given spreadsheet application which may include:
    - Data input and format
    - Data processing
    - Data output and its format
  - Create a spreadsheet from a design specification
10. Facilitate the learner to demonstrate personal initiative and resourcefulness in editing and amending spreadsheets to ensure they are fit for purpose.
- Which may include the use of protect/unprotect or hide/display facilities
  - Recalculate a spreadsheet



**11. Assessment****11a. Assessment Techniques**

All learning outcomes must be assessed.

Project 50%

Examination – Practical 50%

**11b. Mapping of Learning Outcomes to Assessment Techniques**

In order to ensure that the learner is facilitated to demonstrate the achievement of all learning outcomes from the component specification; each learning outcome is mapped to an assessment technique(s). This mapping should not restrict an assessor from taking an integrated approach to assessment.

	<b>Learning Outcome</b>	<b>Assessment Technique</b>
1	Investigate a range of common uses for spreadsheets.	<b>Project / Examination</b>
2	Explore key spreadsheet elements including cells, cell references, numeric, alpha, and alphanumeric data, formulae, functions, graphs and macros.	<b>Project / Examination</b>
3	Demonstrate common spreadsheet usability features to include use of toolbars, window management, sorting, and filtering.	<b>Project / Examination</b>
4	Use spreadsheet design features involving data and cell formatting techniques which enhance understanding and legibility.	<b>Project / Examination</b>
5	Automate routine multi-step tasks through the creation, execution, and management of simple macros.	<b>Project</b>
6	Print complete or partial sections of a spreadsheet, formatted fit for presentation.	<b>Project / Examination</b>
7	Use advanced spreadsheet features including absolute and relative cell references, conditional IF statements, statistical, financial, and date and time functions.	<b>Project / Examination</b>
8	Generate a variety of types of graphs, with appropriate titles and labels, from spreadsheet data.	<b>Project / Examination</b>
9	Produce a spreadsheet, with minimal supervision, that meets a simple design specification and is fit for purpose.	<b>Project</b>
10	Demonstrate personal initiative and resourcefulness in editing and amending spreadsheets to ensure they are fit for purpose.	<b>Project / Examination</b>

**11c. Guidelines for Assessment Activities**

The assessor is required to devise assessment brief and marking scheme/examination paper, marking scheme and outline solutions for the project and examination. In devising the assessment brief and examination paper, care should be taken to ensure that the learner is given the opportunity to show evidence of achievement of ALL the learning outcomes. Assessment briefs may be designed to allow the learner to make use of a wide range of media in presenting assessment evidence, as appropriate. Quality assured procedures must be in place to ensure the reliability of learner evidence.

<b>Project</b>	<b>50%</b>
Time allocated to this assessment activity should be 40 self-directed hours.	
<p>The project brief will focus on a broad range of specific learning outcomes and will require candidates to design, implement and modify a spreadsheet.</p> <p>The internal assessor will devise a project brief that requires candidates to demonstrate:</p> <ul style="list-style-type: none"> <li>• Understanding and application of worksheet features</li> <li>• Ability to create, edit and manage worksheets and workbooks</li> </ul> <p>The spreadsheet should contain at least 10 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</p> <p>Evidence for the design phase will include:</p> <ul style="list-style-type: none"> <li>• A concise description of the problem and a proposed solution, identifying a source of data and identifying common uses for spreadsheets</li> <li>• Demonstrate common spreadsheet usability features to include use of toolbars and window management</li> <li>• Specifications for input data, processing required and output data</li> <li>• Specifications of format for all data e.g. alignments, column widths</li> <li>• A design for a data capture form and the screen layout</li> <li>• A concise description of the proposed macro</li> <li>• A concise description of the proposed graph</li> <li>• Specification of where filtering will be used in the assignment</li> </ul> <p>Evidence for the implementation phase will include:</p> <ul style="list-style-type: none"> <li>• A spreadsheet structure, to include appropriate data, labels, formatting, formulae and functions</li> <li>• A printout of the entire spreadsheet formatted appropriately and a printout of the spreadsheet showing formula</li> <li>• A printout of the spreadsheet after a variable has been changed</li> <li>• A printout of the spreadsheet showing the use of a filter</li> <li>• A printout of the macro results</li> <li>• A printout of the graph</li> </ul>	

- Use of a simple and conditional IF statement
- Use of Statistical and Financial functions
- Use of Date and Time functions
- Use of absolute and relative cell referencing

Evidence for the modification phase will include:

- Suggested modifications or improvements to the original design

Evidence for this assessment technique may take the form of written, graphic, visual or digital evidence or any combination of these. Any video or digital evidence must be provided in a suitable format.

All instructions for the learner must be clearly outlined in an assessment brief and marks scheme.

<b>Examination – Practical</b>	<b>50%</b>
The examination will be based on a range of specific learning outcomes and will be 2 hours in duration.	
<p>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.</p> <p>The examination will be based on a range of specific learning outcomes and will be 2 hours in duration.</p> <p>The format of the examination will be as follows:</p> <p>The internal assessor will design specific tasks which will require candidates to demonstrate their ability to:</p> <ul style="list-style-type: none"> <li>• Create a spreadsheet consisting of at least 10 rows and 7 columns 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</li> <li>• Insert the date from the computer clock</li> <li>• Generate formulae</li> <li>• Generate the following functions: statistical, financial, IF function, conditional IF function and LOOKUP function</li> <li>• Print specified area of the spreadsheet (values and formulae) with row and column identifiers</li> <li>• Edit the spreadsheet i.e. delete and insert rows and/or columns</li> <li>• Organise the spreadsheet or portion of the spreadsheet using a sort</li> </ul>	

- Produce a graph (different type from the graph in the project)
- Print the spreadsheet and graph
- Save

Evidence for this assessment technique may take the form of written, oral, graphic, or digital evidence. Any audio, video or digital evidence must be provided in a suitable format.

All instructions for the learner must be clearly outlined in an examination paper.

## 12. Grading

Distinction: 80% - 100%

Merit: 65% - 79%

Pass: 50% - 64%

Unsuccessful: 0% - 49%

At levels 4, 5 and 6 major and minor awards will be graded. The grade achieved for the major award will be determined by the grades achieved in the minor awards.

<b>Spreadsheet Methods 5N1977</b>	<b>Learner Marking Sheet Project 50%</b>
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Learner's Name: \_\_\_\_\_

<b>Assessment Criteria</b>	<b>Maximum Mark</b>	<b>Learner Mark</b>
<b>Design</b> <ul style="list-style-type: none"> <li>• Project with aims clearly described</li> <li>• Investigate a range of common uses for spreadsheets</li> <li>• Demonstrate common spreadsheet usability features</li> <li>• Spreadsheet, data capture form and screen layout well designed to include accurate detail</li> <li>• Specifications for input data, processing and output</li> <li>• Description of the proposed macro</li> <li>• Specification of the proposed graph</li> <li>• Description of how the filtering will be used in the assignment</li> </ul>	20	
<b>Implementation</b> <ul style="list-style-type: none"> <li>• Data and labels accurately inputted</li> <li>• Formulae and functions accurately applied</li> <li>• Chart and Macro clearly identified</li> <li>• Variable change clearly demonstrated</li> <li>• Versions of spreadsheet accurately saved and printed, showing the entire spreadsheet, the spreadsheet with formulae and after recalculation and after the use of a filter</li> </ul>	25	
<b>Modifications</b> <ul style="list-style-type: none"> <li>• Relevant modifications or improvements suggested</li> </ul>	5	
<b>Total Mark</b>	<b>50</b>	

Assessor's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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

Date: \_\_\_\_\_

<b>Spreadsheet Methods 5N1977</b>	<b>Learner Marking Sheet Examination - Practical 50%</b>
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Learner's Name: \_\_\_\_\_

<b>Assessment Criteria</b>	<b>Maximum Mark</b>	<b>Learner Mark</b>
<b>Creating</b> <ul style="list-style-type: none"> <li>• Spreadsheet accurately created</li> <li>• Cells accurately formatted</li> <li>• Formulae accurately applied</li> <li>• Functions accurately applied</li> <li>• Date from the computer clock accurately inserted</li> </ul>	30	
<b>Edit</b> <ul style="list-style-type: none"> <li>• Rows and/or columns accurately inserted</li> <li>• Rows and/or columns accurately deleted</li> </ul>	5	
<b>Organise</b> <ul style="list-style-type: none"> <li>• Spreadsheet accurately organised to include use of sorting</li> </ul>	5	
<b>Chart</b> <ul style="list-style-type: none"> <li>• Graph accurately produced</li> </ul>	5	
<b>Save and Print</b> <ul style="list-style-type: none"> <li>• Spreadsheet and chart appropriately saved</li> <li>• Specified area of the spreadsheet (values and formulae) with row and column identifiers, and chart or macro accurately printed</li> </ul>	5	
<b>Total Mark</b>	<b>50</b>	

Assessor's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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

Date: \_\_\_\_\_