

MEE- Units

TLM Unit Qualification for Coding in M:EE

Introduction

We believe these new and innovative short course qualifications provide the most inclusive and cost-effective qualifications available for an introduction to the Computing curriculum emphasis while preserving the necessary rigour for stretching the highest attaining candidates. In addition, there is a clear intention to reduce the bureaucratic overhead on teachers while preserving the benefits of coursework for motivating learners and dealing validly with recognition of practical competence in what are essentially practical and vocational skills and activities. This enables a clear progression route for the weakest mainstream learners through to identifying those that are likely to be successful in full Level 1 and Level 2 qualifications.

The qualifications enable coverage of a wide range of general knowledge, understanding and competencies. Starting at Entry 2 these will support all by leaving progression routes open to Level 1 that will benefit any young person aspiring to progress into a full-size Computing qualification.

This specification is for 3 qualifications, starting at Entry 2, and completing at Level 1. It has the following key benefits.

1. based on the computing programs of study for Key Stage 2 and Key Stage 3 thus providing an assessment model providing progression to Level 1 and 2.
2. devised in consultation with Microsoft and Minecraft Education utilising their knowledge of industry needs and accessibility priorities
3. clear and flexible unit-based structure referenced to the European Qualifications Framework (EQF).
4. straightforward assessment of competence in real rather than contrived contexts.
5. provides a focus for continuing professional development for teachers through moderation/verification feedback.
6. moderation/verification of coursework on demand.
5. reduced bureaucracy for teachers and the flexibility for them to target specific interests.

These qualifications lend themselves to formative assessment practices allied to summative differentiation by an outcome that can optimise and motivate attainment for individuals rather than assume all will reach a certain level or grade at a particular time. We do this by providing a coursework component that is competency-based, reflecting the best and most up to date research in assessment in the workplace.

Qualification entry requirements

The qualification is available at Entry 2, Entry 3 and Level 1. It is founded in programmes of study for Computing and is available for all learners with no prerequisite for any other qualification to be completed prior to entry. Learners are able to join the course at the level most appropriate to their ability allowing flexibility and control to be maintained by the centres.

Knowledge and understanding

The following knowledge and understanding will be required to support learning for each qualification. At each level, the understanding needed is in keeping with the RQF general description of the qualification level.

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(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){(i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o),m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)})(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');
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1. Demonstrate knowledge and understanding associated with the computing terms as shown within the units Learning Outcomes.

Assessment

All centres have an assigned Account Manager who will be very pleased to help at any time. Our aim is to give professional assessors, most of whom are qualified teachers, the confidence to make judgements with a minimum of bureaucracy so that they can focus their time on maintaining their professional knowledge and skills and support learning through effective teaching rather than "chasing paper". There is often a confusion between bureaucracy and rigour since unnecessarily complex bureaucracy can actually detract from rigour by obscuring the importance of the outcomes in the unnecessary process. We also encourage coursework to be carried out in valid and real contexts rather than as contrived simulations. Competence is best assessed in context. All assessors must sign an agreement to uphold standards and feedback from moderation/verification will support consistency.

Therefore Coursework assessed in terms of competence in practical areas where knowledge and understanding can be applied in real and motivating contexts.

Evidence has to be provided against the unit assessment criteria from practical tasks related to the learners' everyday work. This is likely to be from specialist lessons related to computing but can and should include evidence from across the curriculum. This will ensure that what is learnt in Computing has some chance of contributing to raised standards in all subjects. The way evidence is gathered is up to the assessor, but [example workbooks are available](#) [1], the only requirement is that it clearly supports the judgements against the assessment criteria and the relevant learning outcomes. If on moderation the account manager finds gaps in evidence related to a particular candidate they will request more evidence before approving the award of the unit certificate. Assessors must then adjust their work to ensure all their learners are providing the appropriate level and breadth of evidence. We encourage early submission of at least some evidence so that assessors are confident from the feedback that what they are providing is sufficient (and indeed not over-kill). In this way, we can maintain standards while supporting improved efficiency.

Units information

TLM Entry Level 2 - Introduction to Coding in Minecraft using MakeCode. 603/3401/0 [2]		
Total Credits = 1	Guided Learning Hours = 10	Total Qualification Time - 11
Learning Objectives	Learning Outcomes	Evidence
Develop a set of rules for using an online collaborative platform	Learners will understand the importance of being a responsible digital citizen,	Define a set of guidelines/rules for collaborative working in Minecraft

	by using a shared online platform	(e.g. appropriate language, consideration of being in a digital environment)
Develop an understanding of coding language	Learners will have an understanding of how they can use code to build in Minecraft and develop a relationship with 'Agent.'	Lay a number of different blocks in a specified order
Create a program for a given task using sequential steps	Learners will be able to solve problems within the Minecraft map by creating algorithms, and to use loops to refine/shorten their algorithms.	Write out a series of steps to create an object in Minecraft then code. Demonstrate the knowledge of key words/blocks and another programming syntax
Modify an existing program to solve errors and predict if a program will fail	Learners will be able to solve problems within the Minecraft map by creating algorithms; and to use	Demonstrate the understanding that changing a variable will result in a different outcome

	loops to refine/show their algorithms	Demonstrate different methods to build the same using different code
Reflect on the debugging process in an age-appropriate way	Learners will collaborate within a shared platform to solve problems and share information	Create a shared world, specify users with worldbuilder ability

TLM Entry Level 3 - Intermediate Coding in Minecraft using MakeCode.603/3402/2 [3]		
Total Credits = 1	Guided Learning Hours = 10	Total Qualification Time - 11
Learning Objectives	Learning Outcomes	Evidence
Develop a file storage strategy for a world being exported at various stages of completion	Learners will understand the importance of file versioning and backing up	Save multiple versions of the same world (using appropriate naming convention) after changes made to the world
Identify the difference between various standard programming blocks in MakeCode (e.g. Loops, Variables, Logic)	Learners will be able to identify standard program	Evaluate a code sequence that includes loops,

	ming blocks in MakeCode such as loops, variables and logic	variables and logic and determines why these coding concepts are more efficient methods of coding
Predict, without running, the outcome of a series of MakeCode blocks	Learners will be able to understand the outcome of a program without running the code	Demonstrate what the resultant structure will be without running the code
Predict, without running, the outcome of a making series of changes to MakeCode blocks such as changing the order of blocks or variables	Learners will be able to demonstrate the ability to determine the differences in the output of a program, after making changes to the program, given only the program and its input without running the program	Demonstrate what the resultant structure will be without running the code
Identify an error in an existing MakeCode program (e.g. looping one too many/little times, incorrect conditions in conditional statements)	Learners will be able to identify errors in the code	Evaluate a code sequence and determine why the outcome is not as

		expected
Demonstrate the use of loops, variables and logic	Learners will be able to effectively use standard programming blocks in MakeCode such as loops, variables and logic	Use loops and variables to be able to build structures of different sizes (e.g. walls of specified height via variable)
Given a problem develop and explain a MakeCode program to formulate a solution	Learners will be able to design and develop a programmatic solution for a given problem	Demonstrate the ability to design a solution to a given problem and explain steps taken

[TLM Level 1 - Advanced Coding in Minecraft using MakeCode_603/3403/4](#) [4]

Total Credits = 1	Guided Learning Hours = 10	Total Qualification Time - 11
Learning Objectives	Learning Outcomes	Evidence
Identify a scenario where you could reuse existing blocks or code to accomplish a task	Learners will understand that code is reusable	Demonstrate the ability to reuse code to create a similar structure
Given some code identify iteration and section blocks in MakeCode and JavaScript code and explain the use and results of each block	Learners will be able to identify iteration	Demonstrate the ability to use iteration

	and selection in both MakeCode blocks and JavaScript	and selection blocks to perform output
Following a set of written instructions determine the outcome	Learners will be able to demonstrate the ability to determine the output of a program given only the program and its input without running the program	Determine what a structure will be from an algorithm
Identify the blocks of JavaScript which relate to the equivalent MakeCode blocks	Learners will be able to identify the equivalent JavaScript code of MakeCode blocks	Compare the same code in block-based format and JavaScript format and identify key functionality
Given a problem, design and develop a solution using MakeCode	Learners will be able to design and develop a programmatic solution for a given problem	Create a snippet of code to solve a problem
Given a series of instructions with syntax errors identify the syntax errors and provide solutions	Learners will be able to identify syntax errors in	Demonstrate what happens when loops are enumerated

	existing code and provide explanation of the syntax error and suitable resolution (s)	ted one to many or not enough times
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Support pages for the delivery of M:EE Coding:

[Student logbook for Introduction to Coding using MakeCode](#) [5]

[Student logbook for Intermediate Coding in MakeCode](#) [6]

Source URL: <https://theingots.org/community/M-EE-Units>

Links

[1] <http://theingots.org/community/M-EE-Support1>

[2] <https://register.ofqual.gov.uk/Detail/Index/41663?category=qualifications&query=TLM%20Entry%20Level%20%20-%20Introduction%20to%20Coding%20in%20Minecraft%20using%20MakeCode>

[3] <http://register.ofqual.gov.uk/Detail/Index/41664?category=qualifications&query=TLM%20Entry%20Level%20%20-%20Introduction%20to%20Coding%20in%20Minecraft%20using%20MakeCode>

[4] <http://register.ofqual.gov.uk/Detail/Index/41665?category=qualifications&query=TLM%20Level%20%20-%20Advanced%20Coding%20in%20Minecraft%20using%20MakeCode>

[5] <https://theingots.org/community/M-EE-Support1>

[6] <https://theingots.org/community/MEE-Support2>