LEVEL 1/2 VOCATIONAL AWARD IN ENGINEERING (TECHNICAL AWARD)

GUIDANCE FOR TEACHING

DELIVERY GUIDE

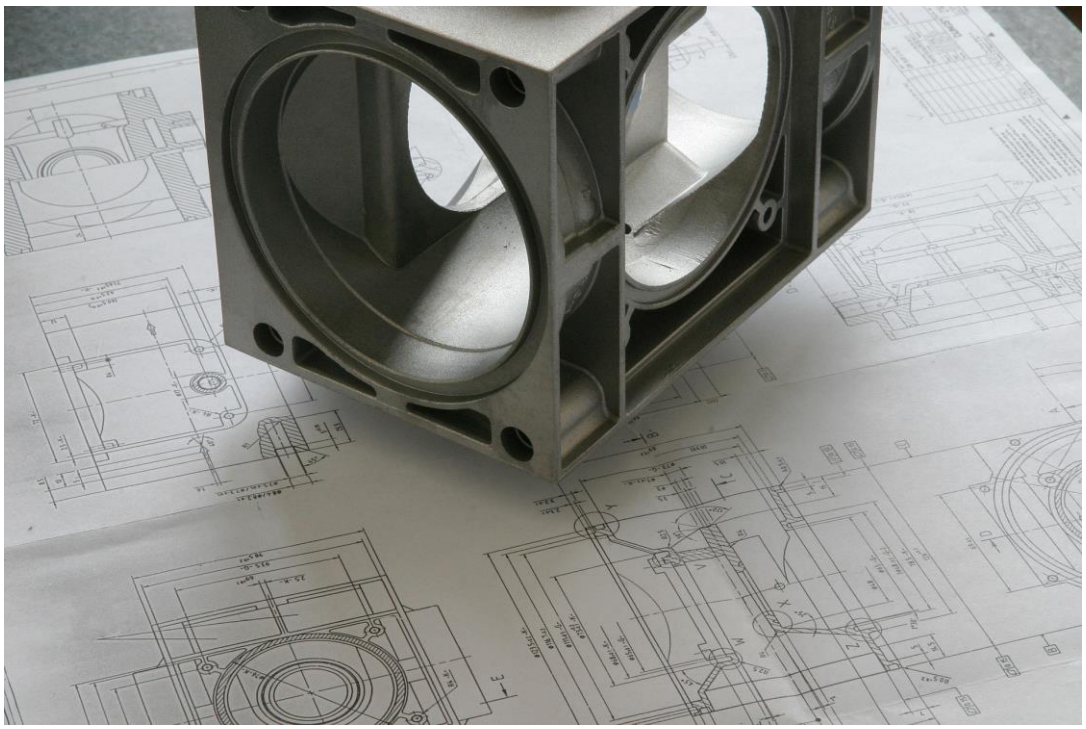
VERSION 2 – JUNE 2023

Aims of the Guidance for Teaching

The principal aim of the Guidance for Teaching is to support teachers in the delivery of the WJEC Level 1/2 Vocational Qualification in Engineering (Technical Award) and to offer guidance on the requirements of the qualification and the assessment process. The Guidance for Teaching is **not intended as a comprehensive reference**, but as support for professional teachers to develop stimulating and exciting courses tailored to the needs and skills of their own learners in their particular institutions.

Aims of the Delivery Guide

The principal aim of the Delivery Guide is to give an overview of the qualification. It will offer an introduction to the specification, an assessment overview and other guidance that we hope teachers will find useful. Greater information on each unit can be found in the separate unit guides.



Contents

Introduction to the Specification

The WJEC Level 1/2 Vocational Award in Engineering (Technical Award), approved by Ofqual and DfE for performance qualification tables in 2024 (first teaching from September 2022), is available to:

- all schools and colleges in England and Wales
- subject to local agreement, it is also available to centres outside England, for example in Northern Ireland, in the crown dependencies of the Isle of Man and the Channel Islands, and in British overseas territories, and to British forces schools overseas. It is not available to other overseas centres.

The qualification will be awarded for the first time in January 2024, using grades Level 1 Pass, Level 1 Merit, Level 1 Distinction, Level 1 Distinction*, Level 2 Pass, Level 2 Merit, Level 2 Distinction, Level 2 Distinction*.

Additional ways that WJEC/Eduqas can offer support:

- sample assessment materials and mark schemes
- face-to-face CPD events
- examiners' reports on each question paper
- free access to past question papers and mark schemes via the secure website
- direct access to the Subject Officer
- free online resources
- Exam Results Analysis
- Online Examination Review
- Regional Support Team (England Centres only. See page 27 for more information).

Qualification Structure

WJEC Level 1/2 Vocational Award in Engineering (Technical Award) consists of 3 units:

Unit title		Type of Assessment	Weighting
Unit 1	Manufacturing engineering products	Internal	40%
Unit 2	Designing engineering products	Internal	20%
Unit 3	Solving engineering problems	External	40%

All Units are compulsory.

Unit 1 (Manufacturing engineering products)

Unit 1 provides learners with the opportunity to interpret different types of engineering information in order to plan how to produce engineering products. Learners will develop knowledge, understanding and skills in using a range of engineering tools and equipment in order to produce and test an end product.

Unit 2 (Designing engineering products)

Unit 2 allows learners to explore how an engineered product is adapted and improved over time, and it offers learners the opportunity to apply their knowledge and understanding to adapt an existing component, element or part of the engineering outcome that they produced for Unit 1.

Unit 3 (Solving engineering problems)

Unit 3 introduces learners to a range of considerations that impact on engineering design and how modern engineering has had an impact on modern day life at home, work and in society in general.

What's New?

Unit 1

Specification content:	Area of content:	If/where it featured in legacy specification:
1.1.1	Learners should be able to understand engineering drawings and identify parts and/or components that will enable them to plan a final product.	Unit 2 LO1 AC1.2
1.1.2	Learners should be able to interpret key engineering information about production requirements.	Unit 2 LO1 AC1.2
1.1.3	Learners should be able to present engineering information they have extracted from drawings etc.	General expectation of assessment
1.2.1	Learners should be able to identify which materials are suitable for producing specific parts of an engineering product and present the information in planning documentation. Learners should be aware of material stock and stock sizes.	Unit 2 LO2 AC2.1
1.2.2	Learners should be able to identify and select the equipment that is needed for each stage of the production of a product.	Unit 2 LO2 AC2.1
1.2.3	Learners should be able to identify the tools that are needed for each stage of the production of a product.	Unit 2 LO2 AC2.1
1.2.4	Learners should be able to present their plan of processes, sequencing, equipment, and tool/machine requirements in planning documentation. Learners should be able to sequence operations appropriately and present the information in planning documentation. Learners should be able to identify time requirements for processing resources in preparation and the time needed for each stage. Learners should be able to present this information in a way that would allow a third party to produce the product.	Unit 2 LO2 AC2.2
1.2.5	Learners should be aware of the need for contingency planning to allow for unforeseen situations.	Unit 2 LO2 AC2.2
1.3.1	Learners should be able to demonstrate safe working practice with a range of engineering tools.	Unit 2 LO3 AC3.1

1.3.2	Learners should be able to demonstrate safe working practice with a range of engineering equipment.	Unit 2 LO3 AC3.2
1.3.3	Learners should be able to follow appropriate Health and Safety procedures when working in engineering workshops. Learners should also be aware of Health and Safety, risk assessments and safe working practices during the use of engineering equipment.	Evident in assessment criteria for AC's 3.1, 3.2 & 3.3
1.4.1	Learners should be able to apply a range of key engineering processes. Learners should be able to apply appropriate Health and Safety practices when undertaking practical engineering tasks.	Unit 2 LO4 AC4.1
1.4.2	Learners should know and understand which engineering processes and tools are appropriate for different material.	New to Specification
1.4.3	Learners should know and understand that successful engineering outcomes require measuring against given criteria.	Unit 2 LO4 AC4.2
1.4.4	Learners should be able to evaluate their own practices and processes during the planning and producing of engineering products or parts of engineering products.	Unit 2 LO4 AC4.2

UNIT 2

Specification content:	Area of content:	If/where it featured in legacy specification:
2.1.1	Learners should be able to identify primary features of the product.	Unit 1 LO1 AC1.1
2.1.2	Learners should be aware of features of other engineered products that may have similar needs to their given brief. Learners should be aware of why and how these features are applied on other similar products.	Unit 1 LO1 AC1.2 & AC1.3
2.1.3	Learners should be able to explain the functional properties of their design solutions focusing on areas.	Unit 1 LO1 AC1.3
2.2.1	Learners should be able to: • identify existing solutions already available that meet or partly meet the problem of the brief • generate ideas related to the engineered solution • generate a range of solutions that meet the given brief and address the problem set • explore implementation of ideas. Learners should be able to develop a range of ideas through to a solution including testing and modelling.	Unit 1 LO1 AC1.2 & LO2 AC2.2
2.2.2	Learners should be aware that design solutions must meet a range of specific criteria, including any limitations set by the brief such as those relating to: • materials • sizes • tolerances • cost • operational parameters. Learners should be able to determine the most suitable engineering solution by using a suitable evaluative method such as: • a SWOT analysis • a review/evaluation against the given design specification • a review/evaluation against the brief.	Unit 1 LO3 AC3.2
2.2.3	Learners should be able to communicate design ideas in a suitable media appropriate to the information being presented.	Unit 1 LO2 AC2.2
2.3.1	Learners should be able to produce an engineering specification.	New to Specification
2.3.2	Learners should be able to produce engineering drawings, using traditional instruments or CAD based software, of a final proposed engineered product to recognised standards.	Unit 1 LO2 AC2.1

2.4.1	Learners should be able to:
	• calculate basic areas and volumes of simple geometric shapes
	• interpret estimates with regards to pricing materials and production rates
	• apply Ohm's law to simple problems relating to current, resistance and voltage
	• apply simple ratios and equations to determine mechanical advantage in:
	  ◦ simple gears
	  ◦ levers
	  ◦ pulleys
	• calculate linear dimensions on sketches or drawings using datum points.
	
	Learners should be able to produce responses to engineering problems that:
	• use units of measurement – metres and millimetres
	• apply appropriate scale to sketches and drawings.
		New to Specification NEA but was evident in Unit 3 LO4 AC 4.1

2.4.2	Learners should be able to apply methods of testing to justify material selections that are fit for purpose and meet the design specification.	New to Specification NEA but was evident in Unit 3 LO2 AC 2.2
2.4.3	Learners should be able to suggest and justify appropriate methods for producing the component parts of their engineering outcome.	New to Specification

Specification content:	Area of content:	If/where it featured in legacy specification:
3.1.1	Learners should know and understand how engineering developments have an impact on the design of products and structures. These include developments in: • structural design, focusing on the development of bicycles • mechanical design, focusing on the development of theme park rides • electronic design, focusing on the development of mobile phone/smart technology.	(Some elements) Unit 3 LO1 AC1.1
3.1.2	Learners should know and understand how the development of engineering products are impacted by changes in: • materials • smart technologies, including voice activated, Bluetooth and Wi-Fi • electronic and micro-electronic components and have affected modern life, including: • in the home • in society.	(Some elements) Unit 3 LO1 AC1.1 & 1.2
3.1.3	Learners should know and understand how the manufacture and use of engineered products have an environmental impact in terms of: • materials development • costs • transportation • their use • their disposal • recycling • sustainability. Learners should know and understand how environmental issues affect: • engineering processes • engineering products.	(Some elements) Unit 3 LO1 AC1.3

3.2.1	Learners should know and understand the listed materials and their properties, and when they should be used for a specific purpose.	Unit 3 LO2 AC2.1 & AC2.3
3.2.2	Learners should know and understand the physical properties of materials. Learners should know and understand the properties needed for the following engineering products: • mobile phones • security alarm found in the home • bicycles • children's play areas.	Products new to Specification
3.2.3	Learners should know and understand how destructive and non-destructive testing is undertaken to determine physical properties of engineering materials.	Unit 3 LO2 AC2.2
3.3.1	Learners should understand processes, including relevant tools and equipment, used to produce engineering products.	Unit 3 LO3 AC3.1
3.3.2	Learners should understand how engineering processes can be used for: • material removal • shaping and manipulation • joining and assembly • heat and chemical treatment.	Unit 3 LO3 AC3.2
3.3.3	Learners should know and understand how to work safely when working in an engineering environment such as a school/college workshop when preparing, using and finishing materials.	New to Specification
3.4.1	Learners should know and understand and be able to use calculations and mathematical techniques that are required to solve engineering problems.	Unit 3 LO4 AC4.1
3.4.2	Learners should understand key technical details in an engineering drawing.	Unit 3 LO4 AC4.1

Summary of Assessment

Summary of Assessment
Unit 1: Manufacturing engineering products Controlled assessment: 20 hours 40% of qualification 80 marks
An assignment brief will be provided by WJEC that will include a scenario and several tasks available via the WJEC Secure Website.
Unit 2: Designing engineering products Controlled assessment: 10 hours 20% of qualification 40 marks
An assignment brief will be provided by WJEC that will include a scenario and several tasks available via the WJEC Secure Website.
Unit 3: Solving engineering problems Written examination: Time of exam – 1 hr 30 mins 40% of qualification 80 marks
Questions requiring objective responses, short and extended answers, based around applied situations. Learners will be required to use stimulus material to respond to questions.

Assessment Objectives

AO1 Demonstrate knowledge and understanding from across the specification.

AO2 Apply skills (including practical skills), knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks.

AO3 Analyse and evaluate information, making reasoned judgements and presenting conclusions.

Unit 1

Unit 1 provides learners with the opportunity to interpret different types of engineering information in order to plan how to produce engineering products. Learners will develop knowledge, understanding and skills in using a range of engineering tools and equipment in order to produce and test an end product.

The distribution of the assessment objectives for this unit is:

AO1	AO2	AO3	Total
4%	24%	12%	40%

Unit 2

Unit 2 allows learners to explore how an engineered product is adapted and improved over time, and it offers learners the opportunity to apply their knowledge and understanding to adapt an existing component, element or part of the engineering outcome that they produced for Unit 1.

The distribution of the assessment objectives for this unit is:

AO1	AO2	AO3	Total
1.5%	11%	7.5%	20%

Unit 3

Unit 3 introduces learners to a range of considerations that impact on engineering design and how modern engineering has had an impact on modern day life at home, work and in society in general.

The distribution of the assessment objectives for this unit is:

AO1	AO2	AO3	Total
20%	15%	5%	40%

Course Outline

Planning for delivery and assessment

There is flexibility in the way the qualification can be delivered. There is a terminal external assessment requirement of 40% which needs to be taken into account when making planning considerations (for further information please see pages 24 and 25). The following suggestion is one way of approaching the timing of unit delivery and assessment. Centre specific factors may impact on other approaches.

Year 10 delivery	
Winter term	Introduction to Engineering skills – Skills building for engineering workshop processes and interpretation of engineering information. Understanding how Engineering Drawings are used in engineering. Presenting Key information tasks. Planning stages. Engineering drawings to BS8888.
Spring term	Mock Examination focusing on BS8888 Engineering Drawing. **Unit 3 focused investigation** – Structural Design (Bicycles). Testing – Learners gain familiarity with simple testing techniques. **Unit 2 mock design task** – Focus on designing Engineered Solutions for addressing the Unit 2 Brief. Focus on: Sketching, iterative process, engineering specifications and CAD/traditional Engineering drawing skills.
Summer term	**Unit 3 focused investigation** – Mechanical design (theme parks) & Electronic Design (Mobile phone & Smart technology). Focused Unit 1 Mock Task – Learners produce an outcome from a given set of engineering drawings and technical data. Focus on extracting engineering information, planning, producing and safety. Evaluation techniques to review outcomes. **Learners undertake Unit 1 Task (Analysis & Planning)**
Year 11 delivery	
Winter term	**Complete Unit 1 task** Review functional characteristics of Unit 1 design. Unit 3 Focus – Materials and properties of materials in products (mobile phones, security alarms, bicycles & children's play areas). Focus on calculations and mathematical techniques as detailed in course specification. **Introduction to Unit 2 task.**
Spring term	**Learners undertake Unit 2 Task** Delivery of Unit 2 task interspaced with learners looking at methods of presenting information and developing analytical skills.

Summer term	**Focus on Unit 3 examination preparation** Material developments including Smart materials and their application in Engineering Design. The impact of the development in electronics and how they have impacted on engineered products. Learners undertake small workshop tasks to enforce understanding of engineering processes. Understanding and applying risk assessments. Understanding common engineering drawing standards.

Suggested Course Outline plan

The recommendations detailed below are suggestions only – they are not at all prescriptive and centres are free to structure the course in the way that best suits their individual circumstances.

Key:

Unit 1 GLH[1]	Unit 2 GLH	Unit 3 GLH	Unit 1 Task	Unit 2 Task

	GLH	Content focus	Specification link
	Engineering Skills Building for Unit 1		
September	Unit 1 3 Hrs	Fixings. Mechanical fixings: screw threads, brazing, riveting & soldering. Exploration of permanent & temporary fixing types	Unit 1: 1.1.3/1.3.1 Unit 2: 2.1.1
	Marking Out		
	Unit 1 2 Hrs	Engineer's blue, scribing, centre punch, use of a range of callipers.	Unit 1: 1.2.3/1.3.1 Unit 2: 3.3.1
	Shaping		
	Unit 1 6Hrs	Explore through practical exercises a range of shaping techniques including turning, milling, file work. Work with a range of materials including stock metals, sheet material and plastics.	Unit 1: 1.3.1/1.3.2 Unit 2: 3.3.1
	Engineering Drawing (making task)		
October	Unit 1 6 Hrs	Learning how engineering drawings are used in engineering. Learners will use a set of engineering drawings to produce a small product which covers their skills covered to date. Understanding orthographic and isometric projections – dimensions and tolerance limits.	Unit 1: 1.1.1/1.1.2/1.1.3/1.2.1 Unit 3: 3.4.2
	Presenting Engineering Information		
November	Unit 1 2 Hrs	Link to Unit 1 – Learners consider ways which they can present the information found in the Unit 1 briefs (use SAMs as exemplar).	Unit 1: 1.1.1/1.1.2/1.1.3
	Planning		
	Unit 1 3 Hrs	Using the last making task, learners should plan the making stages so that a third party could now produce the product. Focus on planning and sequencing (including materials, tools, and equipment selection). Learners should be aware of contingency planning and how it impacts production.	Unit 1: 1.2.1/1.2.2/1.2.3/ 1.2.4/1.2.5

[1] GLH = Guided Learning Hours

	GLH	Content focus	Specification link
	Engineering Drawing Skills Building for Unit 2		
December	Unit 2 2 Hrs	British Standards BS8888 & Engineering Drawing. Setting up a basic drawing – Title block and conventions on paper. Setting up a CAD drawing. Simple orthographic projection. Applying dimensions, centre lines and scale.	Unit 2: 3.4.2 Unit 2: 2.3.2
	Isometric Views		
	Unit 2 2 Hrs	Understanding isometric projection. Creating isometric views from orthographic views. Creating orthographic views from isometric views.	Unit 2: 2.3.2 Unit 2: 3.4.2
	Hidden Detail		
	Unit 2 1 Hrs	Learners need to understand how hidden detail is used in an engineering drawing and how conventions are applied.	Unit 2: 2.3.2 Unit 2: 3.4.2
	Computer Aided Design		
	Unit 2 2 Hrs	Using CAD to generate orthographic and isometric views.	Unit 2: 2.3.2 Unit 3: 3.4.2
	Section Views		
	Unit 2 2 Hrs	Understanding how sectional views can help understand how a product is made. Creating section lines on a drawing. Showing a section detail.	Links to Unit 3: 3.4.2
January	Unit 3 1 Hrs	Mock examination based on engineering drawing and materials, tools, and equipment questions.	
	Unit 3 2 Hrs	Structural design – bicycles: focus on identifying key component parts and the range of typical bikes available; road, mountain, hybrid, foldable, electric.	Focus on Unit 3: 3.1.1
	Unit 3 3 Hrs	Understanding the properties of the component parts of a typical bicycle; frame, tyre, rim, brakes, crank, chain, pedals, seat, and spokes.	Unit 3: 3.2.1/3.3.2/3.4.1 (Mechanical advantage & Velocity Ratio)
	Testing		
February	Unit 3 4 Hrs	Learners gain familiarity and apply a range of tests both destructive and non-destructive to a range of suitable materials.	Focus on Unit 3: 3.2.3

		Practice Unit 2		
		Unit 2 1 Hrs	Design Brief linked to possible task from Unit 1 task or stand alone. Perform a series of disassemblies of common products with a focus on identifying primary features. Learners should consider internal and external features of products. Select products for learners to analyse which they are able to make connections to existing engineered products (2.1.2)	Focus on developing Analytical skills for 2.1.1/2.1.2/2.1.3

	GLH	Content focus	Specification link
	Analysis		
March	Unit 2 2 Hrs	Design Task – Focused design task looking at developing design iterative skills in generating solutions to given briefs Focus on limitations set in the brief, link to materials, tolerances etc.	Link to Unit 2: 2.2.2
	Sketching		
	Unit 2 2 Hrs	Developing sketching techniques. Focus on annotation and using appropriate language and engineering terminology *Link back to testing task in February.* Sketching in two and three dimensions. *Link outcome to engineering drawing tasks from December.*	Unit 2: 2.2.3
	Engineering Specification		
	Unit 2 1 Hr	Producing an engineering specification based on the outcome of Practice Unit 2 task. Detailing modifications including material selection, technical and finishing details.	Unit 2: 2.3.1
	CAD Skills		
April	Unit 2 2 Hrs	Learners (where appropriate to facilities) undertake CAD task to generate the outcomes produced in the Practice Unit 2 Task. Learners also undertake paper-based task for orthographic view of their modified outcomes.	
	Continued Unit 3 Focus		
	Unit 3 6 Hrs	**Mechanical Design** – Theme parks How have modern theme parks developed over time? What are typical animatronic devices seen in theme parks? How have rides developed over time? What mechanical challenges have engineers faced in the development of new rides? **Electronic Design** – Mobile phone & smart technology How have mobile phones developed over time? Describe how smart technology has changed the way homes function. Explain the positives and negatives of home automation. What has impacted mobile phone development.	Unit 3: 3.1.1

	GLH	Content focus	Specification link
	Engineering Skills Task 2		
March	Unit 1 8 Hrs	Production task with detailed component drawings (SAM) allowing learners to plan and prepare for Unit 1 in September. Focus on understanding engineering drawings and interpreting engineering information from the information provided. Allow learners to determine suitable materials for component parts. Allow learners to plan and sequence operations.	Unit 2: 1.1.1/1.1.2 Unit 2: 1.2.1 Unit 2: 1.2.4
	Unit 1 1 Hrs	Develop an understanding for contingency planning.	Unit 2: 1.2.5
	Unit 1 6 Hrs	Produce an item with clear understanding of Health and Safety procedures whilst in the workshop environment.	Unit 2: 1.3.3
	Unit 1 2 Hrs	Evaluative exercise on completed making outcome.	Unit 2: 1.4.3/1.4.4
	Risk Assessment		
April	Unit 1 2 Hrs	Practical task on: • identifying and mitigating risk in the workshop environment • undertaking safety checks on equipment.	
	Unit 1 2 Hrs	Producing a risk assessment: preparation for unit 1 task.	Unit 3: 3.3.3
	Evaluations		
	Unit 1 3 Hrs	Classroom task on producing evaluation outcomes. Focus on quality of outcome, tolerance, level of finish.	
	Unit 1 2 Hrs	Producing a formal document to summarise the evaluative stages. How to present the information.	

	GLH	Content focus	Specification link
June/July	Unit 1: Task start		
	Task Unit 1 1 Hr	Analysis of WJEC brief and information pack. Introduction to task and expectations of coursework. Learners are issued document packs and begin extracting information and presenting in a suitable manner for assessment.	Assessment opportunity: 1.1.1/.1.1.2/1.1.3
	Identifying equipment and materials		
July	Task Unit 1 2 Hrs	Identify materials tools and equipment for Unit 1 Task. Focus on presenting cutting lists, job sheets etc. Clear identification of tools and equipment in preparation for planning the make.	Assessment opportunity: 1.2.1/.1.2.2/1.2.3
	Planning and sequencing		
	Task Unit 1 2 Hrs	Sequence stages for component parts identified on Engineering drawings. Opportunity to include appropriate safety considerations and PPE requirements.	
Year 2			
	Presenting evidence		
September/October	Task Unit 1 1 Hr	Present plan and sequencing documentation prior to start. Address contingency plans for unforeseen situations.	Assessment opportunity: 1.2.4 Assessment opportunity: 1.2.5
	Manufacturing		
	Task Unit 1 12 Hrs	Undertake production stages. Learners record photographic evidence of making stages for evaluative stages. Record tolerance checks, safety considerations and finishes.	Assessment opportunity: 1.3.1/1.3.2/1.3.3/1.4.1
	Evaluating		
	Task Unit 1 2 Hrs	Evaluation of outcomes. Learners evaluate their completed product against a range of criteria within the brief and documentation supplied by WJEC. Presented as a written report.	Assessment opportunity: 1.4.3/1.4.4
	Product review		
	Unit 2 1 Hr	Review of the function of the final product in preparation for the Unit 2 task. This will allow learners to gain familiarity with the product and better understand its function and use.	

	GLH	Content focus	Specification link
	Materials (in preparation for Unit 2 & Unit 3)		
November	Unit 3 3 Hrs	A range of focused tasks looking at the application of various materials and how alternatives can be used to achieve similar components in engineering.	Unit 3: 3.2.1/3.2.2/3.2.3
	Unit 3 3 Hrs	Understanding physical properties of materials. Series of tasks looking at everyday objects to allow learners to build confidence in identifying physical properties used in their construction.	Unit 3: 3.2.1
	Unit 3 6 Hrs	Classroom tasks looking at required properties of materials for: • mobile phones • security alarms • bicycles • children's play areas.	Unit 3: 3.2.1
	Calculations and Mathematical Techniques		
	Unit 3 2 Hrs	Understanding calculations, links to Unit 3 external examination and application in Unit 2 design work. Measuring using datum's, scale, units.	Unit 3: 3.4.1
	Formulae		
	Unit 3 2 Hrs	Ohm's Law. Applying mechanical advantage and velocity ratio to a mechanism. Calculating area and volumes of forms.	Unit 3: 3.4.1
	Unit 3 2 Hrs	Applying area and volumes to design outcomes i.e., calculating waste material.	Unit 3: 3.4.1
	Model making		
December	Unit 2 2 Hrs	Series of focused workshop and classroom tasks exploring methods of producing sketch model outcomes for Unit 2.	Unit 2: 2.2.3
	Unit 2 2 Hrs	Paper and card modelling task. Styrofoam models. Mechanical models (Exploring mechanisms & principals). Modelling using scale.	

	GLH	Content focus	Specification link
	Unit 2 Assessment Task		
January		Introduction to task & task expectations.	
	Unit 2: Task Start		
	Unit 2 1Hr	Analysis of WJEC issued brief, learners identify primary features and look at alternative engineered products that may also address the brief.	Assessment opportunity: 2.1.1/2.2.1
		Considerations of other engineered solutions that may have addressed similar needs to the brief.	Assessment opportunity: 2.1.2
	Template Creation		
	Unit 2 1 Hr	Learners create their own templates for presenting the information for the analysis of the brief and specification. Learners may be working digitally or conventionally on A4/A3.	
	Sketch Concepts		
	Unit 2 1Hr	Learners begin to develop ideas that meet the requirements of the brief and specification.	
	Evaluation Methods		
February	Unit 2 1 Hr	Learners develop analytical skills using a range of techniques in preparation for Unit 2: 2.2.2.	Unit 2: 2.2.2
	Swot Analysis		
	Unit 2 1Hr	Learners produce SWOT analysis on generated concepts and review their outcomes against both the design specification and brief.	Assessment opportunity: 2.2.2
	Unit 2 1Hr	Learners present findings of research stages formally for assessment in Task 2. Presentations either digitally or written/folio based.	
	Model Making		
March	Unit 2 2 Hrs	Learners produce sketch models of a range of their ideas after reviewing the available iterations of their designs and completing the SWOT analysis.	Assessment opportunity: 2.2.3
		Development and Functionality	
		Learners further develop a small range of ideas to finalise their design prior to producing their finalised engineering drawings.	Assessment opportunity: 2.1.3
	Testing		
	Unit 2 1 Hr	Testing is undertaken on materials to justify material selections in final engineering specification.	Assessment opportunity: 2.4.2

	GLH	Content focus	Specification link
	Engineering Drawings		
April	Unit 2 2 Hrs	Engineering drawings. Produce required engineering drawings for meeting requirements of the design brief and specification.	Assessment opportunity: 2.3.2/2.4.1
	Specification and Methods of Production		
	Unit 2 1 Hr	Learners produce an engineering specification for the modifications made to meet the brief.	Assessment opportunity: 2.3.1
	Engineering Development		
	Unit 3 4 Hrs	How material developments have impacted developments of engineered products. Developments of smart materials and their application in engineering. Electronics and how they have been pivotal to the development of faster and more reliable products. How the above developments have impacted in everyday homes in both a positive and negative manner.	Unit 3: 3.1.2
	Processes, Tools & Equipment		
	Unit 3 6 Hrs	Series of small workshop tasks and demonstration linked to the key engineering processes identified in Unit 3: 3.3.1 amplification. Learners undertake small exemplar projects for each process.	Unit 3: 3.3.1
	Health and Safety		
May	Unit 3 2 Hrs	Understanding how safety and risk assessment impacts on engineering and planning stages of engineering production. Being able to identify potential risks and being able to suggest control measures to mitigate harm.	Unit 3: 3.3.3
	Engineering Drawing		
	Unit 3 2 Hrs	Understanding common engineering drawing standards. Developing Isometric views from Orthographic drawings. Developing Orthographic drawings from Isometric views.	
	Revision		
	-	Learners undertake revision sessions across unit 3 topics until the examination.	

Terminal Rule

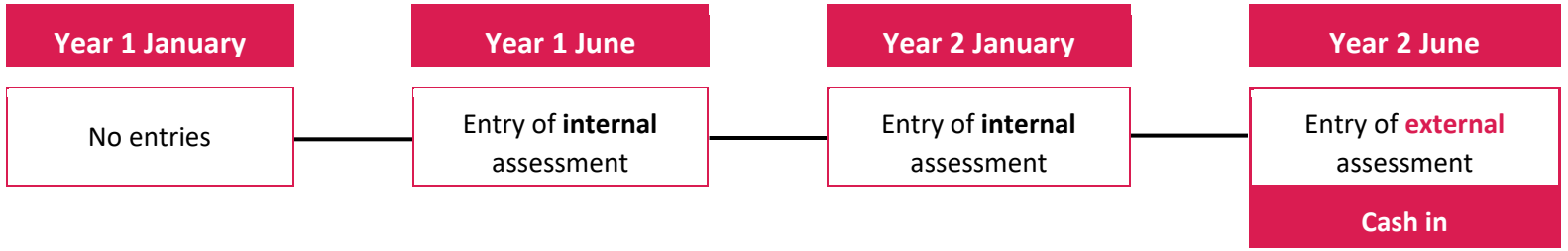
Key Principles:

Candidates must take the external assessment, worth 40% of the qualification, in the series in which they certificate. In Engineering, this is Unit 3.	Only the result for the external assessment that is achieved in the final series, the series in which candidates 'cash-in', can contribute to their final grade. If a candidate takes the external assessment prior to the series in which they 'cash-in', this result cannot contribute to the overall grade, even if it is the better result.	In relation to school performance table points – as opposed to individual candidate results – it is always the first qualification result which counts, irrespective of whether a candidate re-certificates again at a later date.

- Candidates can enter for internally assessed units in January and June
- Candidates may re-sit each **internally** assessed unit but cannot improve previously submitted work. The best uniform mark score from the attempts will be used in calculating the final overall grade.

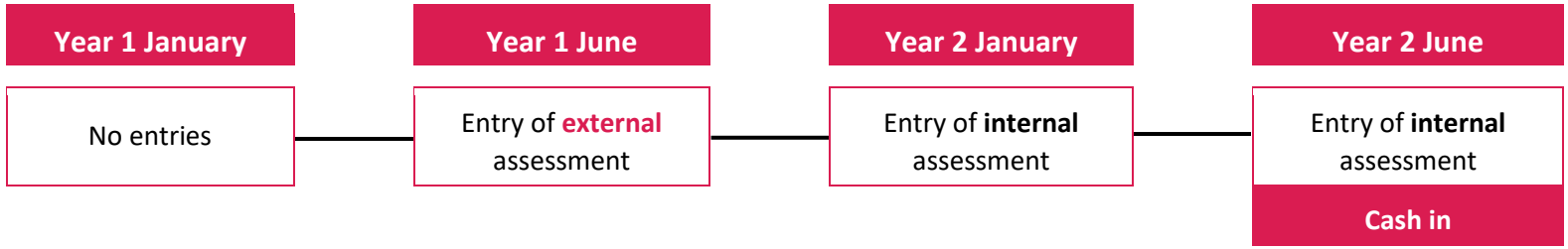
Example scenarios (assuming that the delivery of the qualification takes place over two years):

Scenario 1:



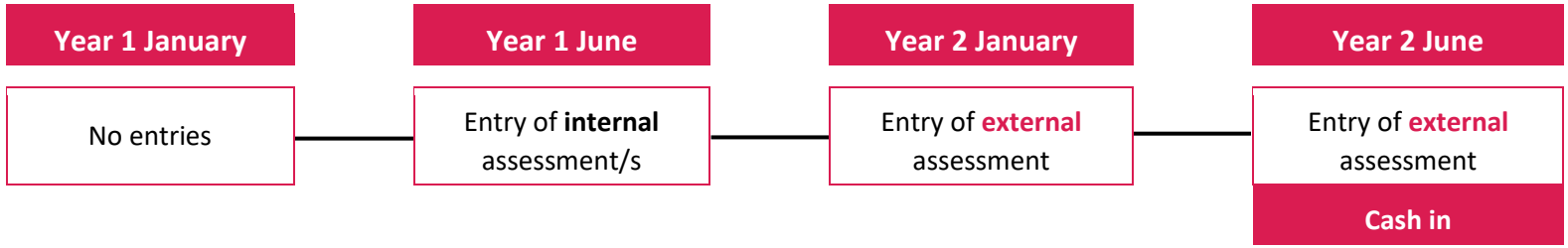
✓ Entry for external assessment takes place in the same series as cash-in and certification.

Scenario 2:



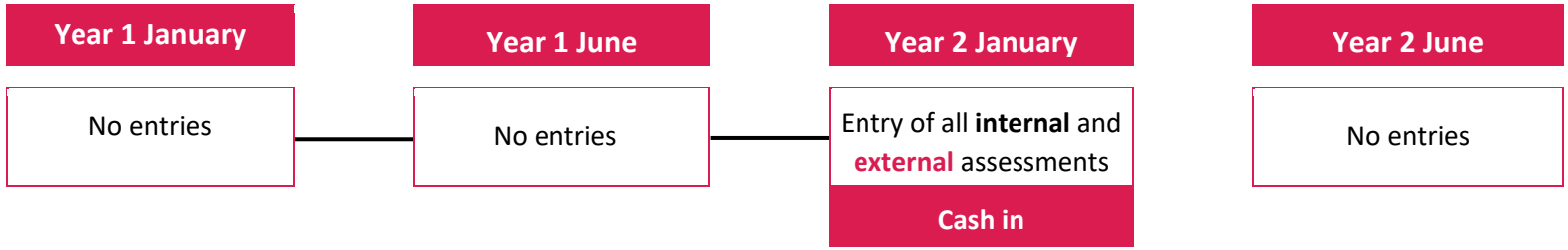
✗ Entry for external assessment **does not** take place in the same series as cash-in and certification.

Scenario 3:



✓ It is the **second** attempt of the external assessment that will count towards the final grade, even if it is lower than the previous.

Scenario 4:



✓ This is a linear approach and would be permissible if the qualification was completed in either January or in June.

Important Dates

First Teaching of the Level 1/2 Vocational Award in Engineering (Technical Award)	September 2022
First assessment for Unit 3 (external assessment)	January 2024
First release of Controlled Assessment assignment briefs (internal)	September 2022
First submission of controlled assessment (internal)	May 2023
First Certification	January 2024

Key Contacts

Contact our specialist Subject Officer and administrative support team for engineering with any queries:

Subject Officer: Gareth Cook

Subject Support Officer: Mike Saltmarsh

Email: engineering@eduqas.co.uk

Telephone: 02922 404 307

Regional Support Team (England Centres only)

The team is on hand to support you in the delivery of WJEC and Eduqas qualifications. They provide guidance to teachers, senior management, and exams officers on our range of qualifications, online resources and tools, CPD and curriculum developments. They also give another link with our subject experts in Cardiff.

To book a visit or an online meeting, or simply to find out more, please contact the relevant member of the team.

Catherine Oldham

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Catherine has extensive experience in the secondary education sector. Formerly she was Head of English at a large sixth form college in Lancashire and an exam board officer.

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Dave Evans

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Before joining the team Dave had a long career teaching geology and geography in a sixth-form college. He has also had a number of assessment roles at WJEC, including most recently that of principal examiner.

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As a former Humanities teacher and further education lecturer, David has experience of teaching a range of subjects. He is also a higher education reviewer for the QAA.

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Ant Fleming

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Ant has had a long career teaching geography and leading departments in a variety of schools, and, since 2002, has also held a number of assessment positions at WJEC.

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Hayley Sheard

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Prior to joining the regional team, Hayley worked as a subject associate at WJEC. She also has extensive experience as an examiner and, most recently, as a principal moderator. Hayley has delivered CPD in a range of face to face and online contexts and has written several resources for teachers and learners. Previously, she taught in the sixth form sector for over 15 years and was also an HOD for Media Studies.

Regions: Merseyside, Cheshire, Shropshire, Staffordshire, Derbyshire, Nottinghamshire, Leicestershire, Northern Ireland.