



CCEA Level 1 Award in Occupational Studies  
CCEA Level 2 Award in Occupational Studies

Summer Series 2022

## Principal Moderator's Report

# occupational studies

*Engineering and Engineering  
Services*



## Foreword

This booklet outlines the performance of candidates in all aspects of this specification for the Summer 2022 series.

CCEA hopes that the Chief Examiner's and/or Principal Moderator's report(s) will be viewed as a helpful and constructive medium to further support teachers and the learning process.

This booklet forms part of the suite of support materials for the specification. Further materials are available from the specification's microsite on our website at [www.ccea.org.uk](http://www.ccea.org.uk).



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# LEVEL 1 AND 2 QUALIFICATIONS IN OCCUPATIONAL STUDIES - ENGINEERING AND ENGINEERING SERVICES

## Principal Moderator's Report

### Internal Assessment Overview

In the Engineering and Engineering Services pathway during the academic year addendums were applied to nine out of the eleven units within the pathway. These were designed to alleviate the difficulties experienced by centres during the COVID pandemic. These addendums were closely adhered to during the moderation process for this pathway.

All moderators reported that they observed improving practice in the delivery of units within the Engineering and Engineering Services pathway this series. The quality of candidate evidence presented was, in general, of a good standard. A wide variety of teaching activities and assessment methods were observed resulting in good candidate outcomes being achieved by the majority of candidates. Where photographic evidence was used this showed, in most cases, candidates performing realistic working activities. In most centres the photographs were reasonably well annotated, by the candidate, identifying the processes involved. Practical tasks developed the requirements of the specification.

There was improvement in the following:

Better breakdown and annotation of marks for individual tasks and sections.

More individual identification of the topics and tasks within the sections, e.g., Health & Safety, Knowledge, Careers and Environment

Centres should take note for candidates:

- Access and guidance to appropriate assessment tasks and resources which cover the complete specification.
- Support and resources to encourage candidates to develop evaluative skills in the AO3

### The Candidate evidence must be presented in the following way:

#### Front cover

- Pathway
- Unit name
- Candidate name and number
- Teaching centre name and number
- Administration centre name and number ( where different from teaching centre)
- Completion date

It is good practice to include the following content within the first few pages of candidates evidence:

- Signatures to confirm authenticity (Candidate and teacher / lecturer)
- Learner Unit Tracking Grid clearly demonstrating where marks are awarded under all 10 assessment outcomes
- Unit specification

## **A01 content includes Health and Safety, Environment, and related Careers**

(Time allocation to this section should equate to 10% of your overall time allocation i.e., approximately 7 hours of the recommended guided learning hours which is 70. The ratio of assessment marks for the Health & Safety, Careers and Related Environmental Issues should be approximately 4:3:3)

The structure of the questions and assessment tasks should allow for stretch and challenge to provide opportunities for differentiation.

### **Health and Safety**

This section contains some common content such as the Health and Safety at Work Act (HASAWA) as it applies to the units within this specification. (This represents 4 marks out of the total of 10 marks for this assessment outcome)

The assessment should include short answer questions on Health and Safety issues appropriate to this unit. Slightly more demanding questions which demonstrate the candidate's ability should also be included. The final questions in this section should allow candidates to apply their knowledge, having a greater degree of rigor providing opportunities

### **Careers**

(This represents 3 marks out of the total of 10 marks for this assessment outcome)

Careers must relate to the occupational content of the unit. Candidates should relate this section to careers, job opportunities, annual salary, qualifications required and progression opportunities within the identified career. It is recommended that candidates identify three career pathways which relate to the unit of study. The candidates should be encouraged to carry out independent research into the three career opportunities.

An example of a 30-mark assessment should include short answer questions, 9 marks which focus on the 3 careers associated with this unit. Slightly more demanding questions/tasks, 9 marks. Demonstration of the candidates' ability to apply their knowledge will be assessed through stretch and challenge questions, 12 marks. (This mark will then be weighted back to a mark out of 3)

### **Environmental**

(This represents 3 marks out of the total of 10 marks for this assessment outcome)

Environmental issues should also relate to the curriculum area being studied. Examples of topics which may be covered in this section include, sources of materials used, recycling and dispatch of redundant materials and environmental footprint etc.

The assessment questions/tasks offered within this section must allow candidates the opportunity to fully demonstrate their knowledge and ability. This may include some short multi choice questions/tasks, but learners must also have assessment questions/tasks which demonstrate stretch and challenge. Some of these tasks should have the opportunity for extended writing.



## **Practical Outcomes A02**

Legitimacy of learner outcomes is essential. All practical work produced under A02 must be supported by photographic evidence (minimum of 7 or 8) that record the development of the A02 project. Witness statements signed by the candidate and the teacher/lecturer together with appropriate evidence may also be used. The degree of complexity outlined in the specification must be reflected in A02. The photographic evidence should show the clear development of the product, where there is one, and in all cases should provide a clear photograph of the completed project. In cases where there is no end product there should be clear photographic evidence of the tasks being completed i.e. in the motor vehicle units.

## **Evaluations A03**

This section still needs to be more fully addressed by some centres. There was a significant improvement in the evaluative nature of the candidate's comments in several centres. Candidates do still tend to provide statements which are descriptive rather than evaluative of the task but in most cases they were marked correctly. Evaluations should also reflect on how the candidate's experience would impact on their outlook, career opportunities and job/employment prospects.

In the majority of centres the candidates' diaries were very well presented detailing the learning process. Although in themselves they don't achieve any assessment marks in certain cases some reflective evaluations were included which formed part of the assessment for A03 task evaluations criteria.

Most moderators reported that marks awarded for candidates' evaluations tended to be lenient due to the descriptive rather than the evaluative nature of the content. Candidates need to reflect on how this experience would impact on their outlook, career opportunities and employment/job prospects.

## **Internal Moderation/Verification**

All units within a pathway must be internally moderated/verified. It is imperative that where a centre enters a number of units within the pathway that a rigorous internal verification system is in place. The outcome of this exercise would establish that all assessment marks are consistently accurate across all units.

**Pathway Units Moderated in this series:**

In the summer 2022 moderation work was submitted from **51 centres**

**The breakdown of units from the pathway was as follows:**

Unit Code	Unit Moderation	No of centres submitting
VYMA	Basic Fast Fit Operations	17
VYMC	Computer Aided Design - CAD	6
VYMD	Electrical Wiring Installation	18
VYME	Electronic Circuit Construction	18
VYMF	Maintenance of Land based Machinery	3
VYMG	Manufacturing Techniques – Hand Fitting *	16
VYMH	Manufacturing Techniques – Sheet Metal *	18
VYMJ	Plumbing *	9
VYMK	Vehicle Servicing and Valeting Operations	8
VYML	Vehicle Technician Operations	1

\***VYMG and VYMH** – Cross pathway unit with Technology and Innovation.

\***VYMJ** – Cross pathway unit with Construction.

There were no entries in this moderation window for:

**VYMB** – Basic Vehicle Body Components and Fitting.

**Basic Fast–Fit Operations**

This unit is best delivered by centres that are generally well equipped and resourced with a range of tools and equipment to offer a range of fast–fit operations associated with the light vehicle industry. It is good practice for centres to have a minimum of four cars in order to deliver this unit to an average class of 16 students. The assessments are completed by observation, removal, inspection, repair/test and refit of fast-fit components supported by job cards, check sheets and supporting photographic evidence. The photographic should be clearly annotated by both the teacher/lecturer and the candidate.

**Electrical Wiring Installation**

This unit is popular with schools and colleges. This unit does not require large start-up costs other than tools and materials, testing equipment and mounting/display boards. It is important that cables are laid out in horizontal and vertical lines and secured neatly between components. A consumer unit should also be included as a component part. The assessment is by observation, assembly, examination and testing of practical tasks. The AO2 practical tasks must be supported by photographic evidence (final practical task not retained) with a range of questions/tasks to cover other aspects of the unit. The centres should provide evidence of the effectiveness of the circuits i.e. by using a multi meter or lit bulb.

**Electronic Circuit Construction**

This unit is popular with schools and colleges because of the limited workshop and storage space required for candidates and resources for the practical tasks. The assessment is by observation, assembly, soldering, examination and testing of practical tasks with supporting photographic evidence and a range of questions to cover all other aspects of the unit. PPE can be limited to safety glasses and an apron.

## **Manufacturing Techniques – Hand Fitting**

This unit is best delivered by centres that have generally well equipped and resourced workshops with the supporting tools, machines and equipment to offer a range of hand fitting activities to meet the assessment tasks within this specification. Preplanning and design of the practical tasks chosen for assessment are crucial in providing the most effective means of completing the criteria specified in AO2 of the specification. Good photographic evidence clearly annotated should show the development of the project.

## **Plumbing**

This unit is best delivered by centres that are generally well equipped and resourced to offer a range of tasks designed to develop skills in plumbing and associated tasks. The assessments are completed by drawing reading, producing a material and cutting list. Undertake joining, assembly and pressure testing/leak detection of three specified tasks using different pipework material. There should be good clear photographic evidence of the projects.

## **Vehicle Servicing and Valeting Operations**

An amendment to the specification (Circular No. S/IF/24/14) was issued to all schools and colleges, outlining changes to be put into operation in this unit. Evidence must be presented to cover the knowledge and understanding elements of vehicle servicing and valeting. For the practical assessments, candidates have to choose either Servicing or Valeting and not both.

Several assessment opportunities need to be provided to candidates, so that all the specification requirements are evidenced. In the majority of centres, the evidence for knowledge and understanding tended to be simplistic and did not allow students to demonstrate their full potential. Centres should use a combination of open and closed questions to assess the learners.

Centres must ensure that all specification requirements are addressed i.e. Servicing and Valeting. This is despite the fact the practical assessment requires the learner to carry out either Servicing or Valeting. The practical assessments must fully meet the specification requirements. In some centres only the minimum opportunities were provided, and this disadvantaged the learners. In some centres the section on careers needs developed to allow candidates the opportunity to carry out independent research into careers within the vocational area.

The evidence for the practical work in most centres was photographic. This needs to be annotated, signed by both tutor and learner together with witness statements and teacher/lecturer observations. The photographic evidence must show the learners wearing the appropriate PPE. (5 centres moderated).

## **Vehicle Technician Operations**

The candidates are required to complete two practical tasks. Teaching centres are expected to use industry standard resources for this unit. The practical tasks should reflect the breadth of opportunity for candidates to stretched and challenged. The candidates should complete a detailed job/check card for each task. There should be clear well annotated photographic evidence provided in the portfolio.

## **CAD – Computer Aided Design**

Teaching centres are expected to use an industry standard drafting package with an individual drafting station for each candidate. The candidates should have access to an individual computer and software capable of producing high quality 2D drawings. The unit may be delivered in parallel with a construction craft or an engineering unit. For example, candidates could prepare drawings for the tool box made in unit 43 Sheet Metal. All drawings presented for moderation must be A3.

## **Maintenance of Land Based Machinery**

In this unit the centres require the candidates to carry out basic manufacturing processes to provide maintenance on tractors or other horticultural or land-based machinery, or safely operate tractors or other land-based machinery in a controlled environment under supervision. Centres should be suitably resourced to deliver this unit and the candidates should have access to multiple small petrol engines and at least two diesel engines. There should be clear well annotated photographic evidence provided for this unit.

**There were no entries for the following units:**

Basic Vehicle Body Components and Fitting

## Contact details

The following information provides contact details for key staff members:

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