Chief Examiner Report

NCFE Level 2 Certificate in Engineering Studies (601/4532/8)

Assessment window: Spring 2019

This report contains general information in relation to the external assessment from the Chief Examiner, with an emphasis on the standard of learner work within this assessment window.

The aim is to highlight where learners generally performed well, as well as any areas where further development may be required, described against each assessment criteria.

Key points:

- administering the external assessment
- standard of learner work
- Regulations for the Conduct of External Assessment (Malpractice & Maladministration)
- referencing of external assessment tasks
- evidence creation
- interpretation of the tasks and associated assessment criteria
- planning in the external assessment.

It is important to note that learners should not sit the external assessment until they have taken part in the relevant teaching of the unit to ensure they are well prepared for the external assessment.

Administering the external assessment

The external assessments must be independent from the teaching of the unit. Work completed during the teaching of the unit cannot be used in the external assessment. Any stimulus materials used by the Centre during the teaching of the unit cannot be used in the external assessment. Learners must complete all of the tasks independently.

The completion of the timed tasks must be invigilated and sat in accordance with the Regulations for the Conduct of External Assessment.

Standard of learner work

Centres should make a judgement as to the ability of a learner before entering them onto an external assessment. Some Centres appear to be entering learners who do not have the required skill levels for Level 2, and as such struggled to produce the standards required for this qualification.

However, to contrast this, this window some Level 2 learners were producing work at a Level 3 industrial standard demonstrating excellent technical drawing standards and ability, and this was reflected in their final grades.

The computer aided design work produced for the 2D and 3D drawings continues to develop in quality. Learners need to be encouraged to demonstrate the developmental work associated with the production of their drawings. Many chose to use screen shots of this process in support of the higher grades. Learners need to provide critical judgement against such annotations, stating reasons why they have used one process over another for example, in order to meet the higher grade descriptors.

Some learners evidence were screen shots of final drawn work zoomed in and made to fit the A3 medium. This is not acceptable as a final presented product, nor will it meet the evidence required for scale. Centres need to teach the correct use of the CAD software in the production of accurate hardcopy evidence that contains a title block, border and suitable scale.

Centres are reminded that it is their responsibility to print to an accurate scale the final presentations of learners work. Some centres clearly had printing issues but made no reference to this for it to be taken into consideration. Centres should undertake a printing check before the start of the external assessment to ensure scales are accurate. It is clear that some centres did not understand the complexity of their CAD software and adjustments required to print accurately, as they were using settings which did not result in an accurate print.

Some learners did not provide any answers to tasks, which will result in a Not Yet Achieved (NYA) for that assessment criteria and an overall Not Yet Achieved for the unit. No tasks should be left blank, and centres must encourage learners to fill all spaces provided within assessment papers. Learners should consider the space provided in the question paper to help structure their answer.

Malpractice & Maladministration

Instances of malpractice were limited in this window, however all Centre's are reminded of the requirements within the NCFE Regulations for the Conduct of External Assessment that must be adhered to when completing NCFE external assessments.

Referencing of external assessment tasks

The assessment criteria are clearly visible for each task in a tabulated format taken directly from the qualification specification, and learners must be encouraged to refer to the grading criteria throughout the assessment to ensure that their answer fully meets this.

This is especially important for learners hoping to achieve Merit and Distinction grades, where the descriptions used within the table indicate how to achieve the higher grading. Centres should inform learners about the key verbs used within the grading tables to encourage higher order grades to be targeted by learners.

Evidence creation

Learners should use the answer booklet, using the space provided. Where responses are typed or additional pages included, the learner and Centre details must be clearly visible and it must be clear which task the answer refers to.

All learners tended to use A3 sized paper for the submission of their hardcopy drawings. Printing an A3 drawing onto A4 paper in sections does not support the guidance provided within the external assessment, learners hard copy work should be printed on the media size that they have selected.

Centres should be aware that ‘Solid Works’ engineering CAD software has a known issue of accuracy when printing 3D drawings. Centres should perform checks to ensure that scaled drawings are accurate to not disadvantage learners for this aspect of their assessment.

Interpretation of the tasks and associated assessment criteria

Task 1, AC 1.1

Learners accurately interpreted the two common systems of measurement, which were annotated within the provided image of the two rulers.

Any appropriate units were given credit. Learners then had to distinguish between the two different forms of measurement.

The responses to the descriptive element in part c) varied. Some learners were not able to demonstrate a coherent explanation reinforced with examples. Learners described the use of metric for smaller dimensions and imperial for larger, which does reflect their use correctly. The task was looking for learners to distinguish between the two different systems in some detail.

Task 1, AC 1.2

This task required that learners describe the use of each item pictured in the task table and provide a description of how it is used in engineering drawings. A range of correct descriptions lifted marks into higher bands. Many learners struggled with the French Curve and its application in an engineering context.

Task 1, AC 1.3

This task requires learners to describe the purpose of scale and proportion. This assessment criterion has two opportunities within Tasks 2 and 3 to be awarded. Scale was better answered than proportion, with many learners missing the opportunity to use the tank sketches provided as reference.

Tasks 2/3, AC 2.1

Layout is a basic requirement of formally setting out a drawing. It involves the use of a border on all four sides, a title block, the positioning of the drawn objects on the paper and the form of projection used and stated.

Learners in some cases did not provide any borders on either drawing which unfortunately results in a NYA as this is a basic requirement for engineering drawing and must be the first thing taught; border and title block.

Many learners used such a large scale that drawings fell off the chosen medium which produced poor layouts.

Tasks 2/3, AC 2.2

Most learners chose to select a scale that was appropriate to provide a level of detail in their drawings. However, some centres appeared to only provide A4 printing which reduced learner's scales on the provided media. Centres need to provide A3 printing opportunities for learners to ensure they are not disadvantaged.

Learners often stated a scale then did not draw to this scale, which limited grades.

Tasks 2/3, AC 2.3

Learners need to evidence the accurate use of drawing tools. Within CAD this was judged by the dimensions in terms of replicating those within the sketch to size and proportion. Accuracy when drawing elliptical circles prevented some learners from achieving the higher grades.

Experimentation in CAD is best demonstrated by the use of screen shots, annotated with justification statements by learners.

Manual techniques can demonstrate experimentation by the use of construction lines, hidden detail, shading and draft copies of drawing or planning layout sketches. Draft copies of drawing planning also supported this criterion. Clean, well presented drawings demonstrate good drawing skills.

Tasks 2/3, AC 2.4

Learners must not provide screen shots as sole evidence of completed drawings. A screen shot does not provide suitable evidence in support of a final presented drawing with a border, title block and appropriate layout.

Some learners again produced drawings which had 3-4mm wide lines as the image outline. This is not accurate drawing or presentation and learners must be taught how to use appropriate line weights on CAD software.

Learners must provide dimensions on both drawings in order to lift grades into higher bands. Many learners forgot to dimension both drawings. Some learners only completed one drawing, which does not provide sufficient evidence when assessment criteria are applied to both drawings.

Centres are reminded that it is their responsibility to ensure that accurate scaled prints have been submitted for examiners to mark. It is recommended that centres perform a scale check before the external assessment to ensure that no error exists.

Planning in the external assessment

The external assessment windows are in Autumn and Spring each year. Candidates will need to be prepared for the assessment window using previous assessment papers. The Spring window is the first suggested external assessment opportunity with the following Autumn as a resit opportunity.

Centres are reminded to check the relevant performance tables information available on our website for this qualification, following the introduction of the Level 1/2 Technical Award in Engineering (603/2963/4).

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