

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

#### **Assessment window: 5 November 2018 – 16 November 2018**

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

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

Key points:

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

It's important to note that learners shouldn't sit the external assessment until they've taken part in the relevant teaching of the unit to ensure they are well prepared for the external assessment.

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#### **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 - V Certs.

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### Standard of learner work

Centres should make a judgement as to the ability of a learner and decide if the Level 2 is too high a level. Several learners appeared to be at a Level 1 and as such struggled to produce the higher standards required for this Level 2 qualification. It would be prudent to start learners on Level 1 in their first year then move them up to Level 2 in the second year on a one year delivery model. To contrast this some Level 2 learners were producing work at a Level 3 industrial standard demonstrating excellent technical drawing standards.

The use of computer aided design software is the medium of choice used by the majority of centres. However the use of some software resulted in learners becoming disadvantaged by centres as the software selected did not provide facilities for layout, scaling and final presentation using a border and title block for the 3D drawing.

Manual drafting techniques where used demonstrate the development of quality drawings. Some centres used CAD for one drawing task and manual techniques for another. This is perfectly acceptable and demonstrates good practice by the centre.

Centres have demonstrated that they have clearly read previous chief examiners reports and implemented the advice and guidance provided into learners delivery of CAD and manual drawing techniques used within engineering. Where centres used CAD and an embedded drawing template, this needs to be localised by learners by filling in all the information required for a title block. Pre-populated title blocks would not be acceptable as evidence and learners must demonstrate that they have completed theses independently.

The use of evidence checklists within assessments is not allowed in accordance with the examination guidelines and centre must refrain from using this as additional support for learners especially when screen-printing experimentation by individual learners.

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 screenshots 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 in order to lift grades into higher mark bands.

Some centres learner's evidence were screenshots of final drawn work zoomed in and made to fit the A3 medium used. 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 had made no reference to this by a note to the examiner. Centres should undertake a printing check before the start of the examinations to ensure scales are accurate.

Learners should be directed to the higher order grading criteria and the descriptive verbs within these to understand what is required to achieve these assessment criteria. Centres should encourage learners to use all the space provided within tasks and to ask for additional paper if required. Positive marking is used where insufficient evidence exists against assessment criteria and so this is valuable evidence that learners produce and gain marks for.

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 section should be left blank and centres must encourage learners to fill all spaces provided within assessment examinations.

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### Regulations for the Conduct of External Assessment - V Certs

#### Malpractice & Maladministration

Centres are reminded of the policy documentation that is available on QualHub. Learners must work independently under supervised examination conditions during the assessment window. All work must be retained within the room and secured during breaks. Learners must be reminded of the regulations during the start of the assessment tasks.

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#### 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 the assessment criteria.

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 attempted by learners.

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#### Evidence creation

Learners should use the answer booklet, using the space provided, to answer questions. Where answers are typed or additional pages included, the learners name must be clearly visible and it must be clear which task the answer refers to. Learner ID numbers must be clearly evidenced on all work along with the centre number in case any evidence becomes isolated.

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 examination. Learner's hard copy work should be printed on the media size that they have selected.

Centres should be aware that it is their responsibility to ensure the software used is compatible with the requirements of the assessment. 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, A.C 1.1

Learners interpreted the two common systems of measurement, which were annotated within the provided drawing and stated two units of measurement against each. Any appropriate units were given credit for example kilometers, miles. Learners then had to distinguish between the two different forms of measurement.

Here evidence varied with some learners 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.

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#### Task 1, A.C 1.2

This task performed well with the majority of learners providing sufficient evidence for a pass. Higher order grades are awarded on the descriptions of how the tool is used for producing engineering drawings. The engineering square was excluded from higher order marking to support learners who might not appreciate that this can be used for aspects of drawing. Learners struggled with the circular stencil template often defining this as elliptical. The initial image was often referred to as a clamp, which is incorrect in its use as a drawing instrument. Many learners described the vernier instrument in terms of measuring depths, which demonstrated excellent knowledge.

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#### Task 1, A.C 1.3

This assessment criterion has two chances within Tasks 2 and 3 to be awarded. Students manage to describe the use of scales within the production of a larger object onto a smaller medium. The description of proportion within engineering drawings was less well answered with some basic descriptions only. Many managed to reference proportion to the Monster Truck used in previous papers, which was good practice evidenced by learners. Learners need to describe proportion in terms of stretching out of axis dimensions in not reflecting real life examples.

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#### Tasks 2/3, A.C 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. Many learners used such a large scale that drawings fell off the chosen medium which produced poor layouts. Learners often did not produce borders and title blocks on both drawings, which is an essential requirement prior to commencing drawing.

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### Tasks 2/3, A.C 2.2

Learner's use of scale must be accurate and produce a drawing that fits well onto their selected medium. Interpretation from given sketch information needs to be correctly transferred into a formal drawing. Scales need to be large enough in order to provide sufficient room to draw in the details required.

Learners often stated a scale then did not draw to this scale, which limited marks. When printing the 3D dimensional drawing in CAD the centre needs to check before the examination that this is accurate against the stated scale on some software packages.

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### Tasks 2/3, A.C 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 of drawing elliptical circles let some learners down in higher mark bands.

Experimentation is best demonstrated by the use of screenshots, which are annotated with justification statements by learners if they are using CAD. Manual techniques can demonstrate experimentation by the use of construction lines, hidden detail, shading and draft copies of drawing or planning layout sketches. Clean well-presented drawings demonstrate good drawing skills.

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### Tasks 2/3, A.C 2.4

Centres should not provide 'screen prints' as evidence of completed learners drawings. A screen print does not provide suitable evidence in support of a final presented drawing with a border, title block and appropriate layout. Many learners just provided a screen print of their final 3D model, which does not meet the requirements of this assessment criterion. Centres need to teach learners how to print models into a 2D sheet with a border, title block and dimensioning presented.

Some learners again produced drawings, which had 3-4mm wide lines as the image outline. This is not considered 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 marks into higher bands. Many learners forgot to dimension both drawings. Some learners did not complete one drawing, which doesn't provide sufficient evidence when assessment criteria are applied to both drawings. Work submitted by learners must be finished and time management has to be taught.

Centres are reminded that it is their responsibility to ensure that suitable software packages are used and accurate scaled prints have been submitted for examiners to mark. It is recommended that centres perform a scale check before the examination takes place in the exam room to ensure that no error exists. If such error is detected then a formal notification should accompany the examination papers return.

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### Planning in the external assessment

Centres are reminded that March 2019 is the last opportunity within the performance tables to complete the externally assessed unit.

Centres are reminded of the strategy “right learner right course”. Some learners would benefit from registering on a Level 1 programme then progressing onto the Level 2.

**Chief Examiner: Simon A Topliss**

**Date: January 2019**