

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

Assessment window: Spring 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 (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 and decide if the Level 2 is correct for them before making a registration. Many learners this window were working at a Level 1 level, and as such struggled to produce the higher standards required for this Level 2 qualification. To contrast this, there were also Level 2 learners who were producing work at a Level 3 industry standard, demonstrating excellent technical drawing standards. “Right learner, right course” is therefore essential when entering learners for exams to ensure that they can cope with standards of evidence required.

The use of computer aided design software is now the medium of choice used by the majority of Centers. Manual drafting techniques were also used by many Centers to successfully 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 Centers used CAD and an embedded drawing template, this needs to be completed by learners by filling in all the information required for a title block, and learners must demonstrate that they have completed theses independently.

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 annotations. For example, why they have used a CAD tool with a judgmental reason specified. This lifts marks into the higher grading descriptors.

The final evidence submitted by some Centre’s 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.

Again centres are reminded that it is their responsibility to print the final presentations of learners’ work to an accurate scale. Some centres clearly had printing issues but had made no reference to this. Centres should undertake a printing check before the start of the examination to ensure scales are reproduced accurate.

Learners should be directed to the Merit and Distinction grade descriptors and the descriptive verbs within these to understand what is required to achieve these higher assessment criteria. Centers should encourage learners to use all the space provided within tasks and to ask for additional paper if required. Where insufficient evidence exists against an assessment criteria examiners can positively mark by reviewing evidence elsewhere in the paper, and so this additional evidence can be valuable to support

learners achieve. Some learners did not provide any response to a task, which will result in a Not Yet Achieved for that assessment criteria and an overall Not Yet Achieved for the unit.

Regulations for the Conduct of External Assessment

Malpractice & Maladministration

Centres are reminded of the policy documentation that is available from the NCFE website. Learners must work independently under invigilated examination conditions in sessions timetabled within the published assessment window. All work must be securely stored between sessions. Learners must be reminded of the NCFE Regulations for the Conduct of External Assessment before each session.

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 meet the higher grading. Centres should inform learners about the key words used within the grading tables to encourage higher order grades to be attempted by learners.

Evidence creation

Learners should use the answer booklet, using the space provided, to answer questions. Where answers are typed or additional pages included, the learner's name must be clearly visible and it must be clear which task the answer refers to. Learner/batch numbers must be clearly evidenced on all work along with the Centre name and number.

Most learners used A3 sized paper for the submission of their hard copy drawings. Printing an A3 drawing onto A4 paper in sections does not support the guidance provided within the examination. Candidates' hard copy work should be printed on the media size that they have selected.

Centres should be aware that the use of SolidWorks engineering CAD software has a known issue relating to printing accuracy in 3D. Centres should perform checks in advance of the external assessment 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 interpreted the two systems of measurement in defining the two systems and providing examples of units against each system. Some learners became confused with this question and stated methods of drawing projection as answers. Centres need to ensure that they provide adequate coverage of this curriculum element as avoidable mistakes impacted some learner outcomes.

Task 1, AC 1.2

Learners performed well on this task, with the majority of learners achieving a Pass grade and above. The divider identification was sometimes as a compass, which was accepted, as it is a function of a divider. Marks are not awarded for merely identifying each component, as this does not meet the assessment criteria. Descriptions need to include how the identified piece of equipment is used for the production of engineering drawings.

Task 1, AC 1.3

The learner responses to this assessment criteria were improved this window, with learners grasping the use of proportion and scale and how it relates to engineering drawings.

Tasks 2/3, AC 2.1

The evidence that is used to award on this criterion is the standard of the drawing layouts. A suitably sized title block is required with appropriate sized font for the media size selected. Some learners used excessively sized title blocks with large font sizes, which were out of proportion to their drawing, limiting marks. Stating the method of projection, materials used, scale and other information within the title block elevated outcomes. Care and attention to detail will lift outcomes into higher bands. Pre-printed CAD title blocks have to be populated by each learner with the drawing information.

Presentation of 3rd or 1st angle projection needs to be correctly laid out. Three dimensional drawings need to follow a known method of stated projection.

Tasks 2/3, AC 2.2

Candidate's use of scale must be accurate. Interpretation from given sketch information needs to be correctly transferred into a formal drawing. Learners often stated a scale but then did not draw to this stated scale, which limited achievement. Appropriate scales need to be used to ensure the best fit on the media size selected by the learners. If printing the 3 dimensional drawing from CAD, Centers needs to perform checks in advance of the external assessment to ensure the printed scale matches the stated scale.

Tasks 2/3, AC 2.3

Learners need to evidence the accurate use of drawing tools. The use of 3D/2D drawing guides is not permitted as the medium to produce drawings upon and can only be marked NYA.

Accuracy of drawing elliptical circles limited outcomes for some learners, and some learners did not demonstrate the production of a 3D drawing in full.

Experimentation when using CAD is best demonstrated by the use of screenshots, which are annotated with justification statements. 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 are the best demonstration of good drawing skills.

Tasks 2/3, AC 2.4

Centres should not provide screenshots of completed learner drawings as their final evidence. Many learners inserted a screenshot of the 2D model into the 2D layout and printed this, which was not to scale and did not contain any method of projection.

Some learners produced drawings which had 3mm to 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 reach higher outcomes. Many learners did not add dimensions to their 3D drawing, limiting their achievement.

Planning in the external assessment

Centres are reminded to give due attention to the published assessment windows of the external assessment when planning their entries. It is not advisable for learners to sit the external assessment early in their programme. It is far more appropriate to enter learners once they have taken part in the relevant teaching to ensure they are well prepared.

Also, Centers would be in a better position to prepare their learners for the external assessment following the support of an external moderation visit for the internally assessed units.

Centers are reminded of the strategy “right learner, right course”. Some learners would benefit from registration on a Level 1 qualification before progressing onto the Level 2.

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