

Moderators' Report/
Principal Moderator Feedback

June 2011

GCE Engineering

Unit 6935_01

The Engineering Environment

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Unit 6935

The Engineering Environment

Overall, in each series, many centres are now assessing accurately for this unit.

Each submission for moderation receives feedback from a moderator, and the purpose of this feedback is to provide guidance on how the results can be improved year on year, which most centres are following.

It is essential to work with a real engineer, however, a few centres still allow candidates to complete the assessment using the internet only, without venturing into industry. This is not a qualification that can be learned by searching the internet for information without meeting engineers and finding out exactly what they do, the environment in which they work and all the relevant factors which impact on them.

A few centres continue to allow candidates to include massive amounts of printouts from the internet or leaflets and documents obtained from industry. All that is required is a brief description and explanation about the documents and how they are used, etc. A reducing number of candidates are submitting numerous pages of printouts from websites, with highlighter marks indicating where they obtained details from. Candidates need to properly reference information from websites. Guidance on how to address the assessment grids would be beneficial for the candidates.

A small number of centres are using work experience to obtain evidence for unit 6935, and generally this is working well. Some centres have difficulty obtaining more than one link with one employer and even one engineer, but most modern engineers have such a varied role that potentially multiple candidates could work with one person and all write about different aspects of his or her role, removing the 'sameness' which usually results in such instances.

A few centres are advised to contact Edexcel with regards to support and training in order to present the qualification accordingly to their learners. There are a few centres which seem to operate within consortia and the potential administrative issues can lead to delays in results if the correct paperwork and procedures are not duly followed.

The candidates' work was across the usual range, mostly ranging from adequate to good. An increasing number of portfolios were excellent.

Assessment Criteria (a)

Typically, 'standards' were related to the products, although some candidates provided long lists, and few seemed to know how to use the collection of material to achieve the higher mark bands.

A pleasing number of centres are now focusing on the actual requirements of the specifications, and some high scores are being awarded, correctly, for making appropriate BS and ISO references, indicating a deeper understanding of the requirements of this unit.

Assessment Criteria (b)

The use of documentation was generally described, but lacked the details how it was used or why they were used. A few candidates collected masses of documents and put them in large appendices. Those that did, made little or no reference to the material, achieving low marks or zero. Only the work completed by the candidate can attract marks. Please make sure that candidates do not do this. Some centres included examples of parts manuals, company policies, etc, and some that were for different products to the one investigated. Such manuals are not needed, and more importantly – they attract no marks.

The majority of candidates performed very well with this criterion and scored some high marks by listing a few documents and describing them, their purpose and use by the engineer – in 2 to 4 pages, without appendices.

Assessment Criteria (c)

Energy efficiency is almost part of general knowledge, and some candidates relied on this – achieving low marks, but lacking depth and application to a real engineer and product. Candidates often mixed this criterion up with the effects on the environment. Many candidates covered this well, including details of efficiency assessment, reducing the use of power, installing a range of relevant insulation, other green issues, etc, and several achieved marks within the higher mark bands. It is essential that each candidate asks their engineer about this, as with all the other sections, or the portfolios can only contain general comments at best, which limits progression through the mark bands.

Assessment Criteria (d)

Environmental impact was generally covered thoroughly, probably as much from general knowledge than specialist investigation. Waste materials, emissions, landfill and noise for surrounding areas were included and discussed by many candidates. Where 'c' and 'd' have been mixed together, it is essential for the assessor to annotate the work in order to help indicate where each part is addressed. This will help with the moderation process.

Assessment Criteria (e)

The technologies section is very similar to section 'b' of 6932, but a deeper understanding is expected at A2 than at AS. The usual CAD/CAM is always included, although some candidates included some good and detailed descriptions, along with justifications of the significance of the systems they had seen in use. Scores were generally very high for this section, but far too many candidates still seem to interpret 'technology' as just 'machinery' or 'software'. These are part the technologies, such as CNC, CAD/CAM, etc, used by engineers, but the use of mobile phones, internet, laptops, PDAs, cameras, satellite navigation, SCADA, and many other applications of new technologies are not being included by almost half of the candidates who submit work.

Assessment Criteria (f)

Evaluations were quite a mix – some very thorough, but the majority were limited. Modifications, following on from the evaluations were also generally weak and unlikely to work. Usually one or two good ideas were included, but it was difficult to determine whether they were really achievable due to inadequate details being provided. Some basic ideas were suggested, and ones that would probably cost far too much money, were mentioned, but not explained in any depth. Some candidates were awarded marks leniently for this section.

As with unit 6932, a long term developmental relationship with an engineer or a company does tend to help the performance of candidates across all learning outcomes, much more than a single visit and walk round the place of employment. The centres who do this effectively might find it rewarding to offer staff development under the banner of 'sharing of good practice' for other centres to attend.

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