



# **Internal Assessment Report: X119 Applied Practical Electronics Intermediate 1**

The purpose of this report is to provide feedback to centres on verification in National Qualifications in this subject.

# Component/coursework in National Courses

## Component/coursework verified

C119: Applied Practical Electronics (Intermediate 1)

The project Unit of this Course forms the external assessment element for which candidates are graded. The project encompasses elements undertaken in the other Units making up the Course.

## General comments

The centres offering this Course during session 2008/09 consisted of three colleges and six schools, with three new centres. The total number of centres offering the Course remains fairly static. However, the actual centres have changed, with some centres dropping out this session while other centres have delivered the Course for the first time.

As in previous sessions, there are two projects available to all centres, with schools opting for the cycle lights project and colleges opting for the traffic light controller project. This reflects the curriculum on offer in each type of centre.

The Course, as well as being practical in nature, gives candidates exposure to problem-solving techniques, and could prove valuable to a wide range of candidates. Many of the skills developed throughout the Course are transferable and can be applied to a wide range of careers.

## Advice on good practice and areas for further development

Internal verification procedures were found to be effective in the majority of centres, with accurate implementation of SQA documentation of the marking of candidates' efforts. Regardless of which one of the two available projects is undertaken, candidates appear to enjoy most of the practical elements of the Course. Each project closely matches the skills developed within the Course, whether it is delivered in FE or in school. The two available projects give centres the scope to match the skills acquired on this Course with other elements within the curriculum. Candidates particularly appear to enjoy the construction and testing part of the project.

Practical skills, such as soldering, will be new to many school candidates, and these candidates would benefit from more experience in these practical areas to improve their practical, hands-on engineering skills. It may also stimulate interest in engineering as a career choice. It was noted, in some instances, that the reports generated by candidates could be neater, especially with regard to circuit diagrams. The use of rulers and other drawing tools should be encouraged. However, there was evidence of improvement compared to previous sessions.

At this Intermediate 1 level, candidates find the initial planning and software simulation stages demanding, and also appear to have difficulty with the test and evaluation stages. This is probably to be expected at this level, and candidates may require more assistance

with these stages. As in previous sessions, candidates are still experiencing difficulties with the layout of the circuit stripboard, which is relatively complex. This has resulted in candidates having further difficulty with the accuracy and neatness of the circuit soldering and circuit implementation.

Testing also proved difficult for candidates due to the complexity of the circuit at this level. Most candidates require assistance with these stages. Candidates also appear to struggle with the final evaluation stage. Greater emphasis should be given to the overall evaluation of the project.

In one centre, a link with a local electronics employer was developed which resulted in candidates visiting the company to see how the skills they were developing were put into practice. This proved valuable for all. Another centre experienced a large increase in the number of candidates selecting this Course, which placed additional pressure on equipment, resources and staffing.

It was also noted that there is pressure on school candidates in terms of study leave near the completion of the Course, which may account for some candidates not completing it. Centres need to carefully plan the delivery of this Course, taking into consideration the other workloads of candidates.