

Our ref: Engineering/NQUpdate/PR/02/MS

25 November 2002

To: SQA Co-ordinator  
Secondary Schools and FE Colleges

Action by Recipient	
	Response required
✓	Note and pass on
	None – update/information only

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Dear Colleague

**National Qualifications in Engineering and Electronics – Update  
Courses at Intermediate 1, Intermediate 2, Higher, Advanced Higher**

The contents of this letter should be passed to the member of staff responsible for engineering and/or technology based subjects or physics.

This update provides information on engineering courses, new courses under development, and what is happening in the NQ Review.

**1 Current exam based courses**

There are 11 courses in engineering at various levels. These are as follows:

- Electronic and Electrical Fundamentals Intermediate 2
- Mechanical Engineering Higher
- Fabrication and Welding Engineering Higher
- Electronics Higher
- Mechatronics Higher
- Structures Intermediate 2
- Electrical Engineering Higher
- Automotive Engineering Higher
- Manufacturing Higher
- Electronics Advanced Higher
- Mechatronics Advanced Higher (available from Diet 2003 onwards)

In Diet 2002 there was uptake on the first five courses listed. The Intermediate 2 course attracted the largest number of enrolments. Most of the centres using the courses (ie units plus exams) are colleges. However three of the courses were also offered in schools. Further details on the results for each of these courses can be found in the PA reports on SQA's website [www.sqa.org.uk](http://www.sqa.org.uk). To find the PA reports go to the Engineering webpage which sits under the NQ page (ie goto page, then 'Select a Subject').

Within colleges it is the units within these courses that are used most frequently. In May 2001 the units from these courses were added to the popular NC Group Awards in Engineering. This means that candidates now have the opportunity to be working towards the achievement of courses while gaining a group award.

NABs have been published for each of the units in these courses. The NABs were designed to exemplify the national standard and as such can be used whether the units are being used as part of courses or part of group awards.

## **2 Current project based courses**

There are nine project based courses in engineering. These are as follows:

Fabrication and Welding Engineering Intermediate 2  
 Automotive Engineering Intermediate 2  
 Engineering Practice Higher  
 Automotive Diagnostics Higher  
 Telecommunications Higher  
 Process Measurement Higher  
 Process Control Higher  
 Industrial Plant Support Higher  
 Process Technology: Fabrication and Welding Higher

In Diet 2002 there was uptake on the first course listed. The PA report for this course can be found on our website. There was no uptake on any of the other courses although units from these courses were used by centres in NC Group Award programmes.

NABs have been published for many of the units in these courses to exemplify the national standard.

## **3 New developments**

Two new project based courses have been developed. These are currently at final draft stage and will be available to all centres in Diet 2004, ie for use from August 2003 onwards. Each of these courses has been developed to meet the needs of its sector and to fill a gap in the current framework. Once finalised each will have an arrangements document that gives details of the syllabus, a project specification that gives details of the project work on which grading will be based, and a NAB for each of the course units.

The courses are as follows:

### **Applied Practical Electronics Intermediate 1**

This is a practical course which began life some years ago as 'Electronics'. It has been developed over a fairly long period of time and has been subject to extensive consultation. The outcome is a delicately balanced course designed to accommodate the needs of both the school and college sectors. The course consists of four mandatory units. Three of the units (Electronics, Practical Electronics and Wiring and Assembly Techniques) are very much hands on with candidates working with components and system units to construct electronic circuits and systems. The remaining unit (Electronic Simulation and Testing) is based on simulating and testing circuits and systems. The course assessment is based on a practical project which integrates the knowledge, understanding and skills learned and practised across the units.

Centres currently offering Engineering Craft Skills Intermediate 1 might be interested in switching over to this new electronics course.

Candidates who achieve the new electronics course could progress to the following exam based courses: Electronic and Electrical Fundamentals Intermediate 2, Electronics Higher and Electronics Advanced Higher.

### **Electrical Installation Fundamentals Intermediate 2**

This course has been developed with the support of industry and could be used as part of a pre-apprenticeship programme. It consists of three mandatory units (Fundamental Electrical Principles, Basic Installation Skills, and Basic Electrical Installation Systems and Protection). The course assessment is based on a project. It is aimed primarily at young people who wish to develop their interest in the field of electrical engineering with the possibility of entering a career in the electrical industry.

## **4 NQ Review**

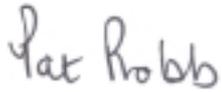
The NQ Review requirements are that we investigate how we can bring the published NABs for engineering courses in line with the new norm of 1 hour for theory based work and 1.5 hours for project based work. This is being reviewed at present. In conjunction with this we are seeking centres' views on whether there is a market for engineering courses and if so at which level(s). Decisions will be made next year on action to be taken and will take account of a more general investigation that is to be conducted on low uptake awards.

## **5 Other information**

I hope that you find this update useful. If you would like more information or clarification on any of the items in this update please do not hesitate to contact me or one of my colleagues.

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Yours faithfully

A handwritten signature in black ink that reads "Pat Robb". The signature is written in a cursive, slightly slanted style.

Pat Robb  
Qualifications Manager