

National Qualifications 2006

Senior Moderator Report

Subject: **Technological Studies**

Assessment Panel: **Technical Education**

The purpose of this report is to provide feedback to centres on moderation which has taken place within National Qualifications in this subject.

NATIONAL UNITS

TITLES/LEVELS OF NATIONAL UNITS MODERATED

D186	Electronic Systems (Higher & Int 2)	Central
D187	Systems and Control (Higher & Int2)	Central
D190	Structures and Materials (Higher & Advanced Higher)	Central
D191	Case Study (Higher)	Central
D192	Project Enquiry (Advanced Higher)	Central

FEEDBACK TO CENTRES

General comments:

NQ Unit	No of Centres	No of pupils	Accepted Groups	Not Accepted Groups
D186 Electronics	5	47	0	5 H 1 Int2
D187 Systems & control	4	31	1 H	3 H 1 Int2
D190 Structures & Materials	4	32	3 H 3 AH	0
D191 Case Study	2	20	2 H	0
D192 Project Enquiry	1	1	1 AH	0

(Note: the moderation sample from a centre may contain groups of any or all of the 3 Levels)

There were two areas of improvement in this year's moderation sample:

- i) NQ Units in Structures & Materials, Case Study and Project Enquiry (7 in total) were included in the sample, units not moderated in previous years;
- ii) Moderation sample size was doubled from 8 to 16 compared to last year with an increase from 3 to 13 of 'new' centres.

There was however, no real improvement in the standard of assessment from centres, as 50% of the sample came into the 'Not Accepted' category at initial moderation.

The Practical Activity was, as ever, the major area of difficulty;

- a) problems used for assessment not sufficiently rigorous or failing to meet specified Learning Outcomes,
- b) teaching staff submitting insufficient documentary evidence that pupils had fully completed their practical assignments.

Centres were also not assessing the Structured Questions (from the NAB material) as a UNIT pass or fail, still setting tests or retests on an Outcome by Outcome basis, and/or not applying the Revised Evidence Requirements from the NQ Review.

All the centres in the moderation sample were accepted either on initial moderation or after an assessment review.

Advice on good practice and areas for further development:

From the summary table on the previous page it can be seen that the new Units sampled this year all complied with the assessment standards expected at moderation.

The majority of 'Not Accepted' presentations came from Units 186 & 187, where evidence of Practical Activities is required. This was due to centres not assessing pupils in line with the NQ Review Memo of August 2002, resulting in an initial moderation failure rate of 8 out of 9 Centres for these Units.

All centres' staff should be familiar with the assessment arrangements issued in the NQ Review memo of August 2002 (Appendix 1 and Appendix 2) and as amended/clarified in the Technical Education-Autumn Update of November 2002.

All are available in the Technological Studies section of the SQA website

The following is a summary of the above documents.

For all Technological Studies Units.

Where the type of assessment is Structured Questions, assessment must be carried out on a **Unit** pass or fail basis, not Outcome by Outcome *i.e. a pupil cannot pass or fail a question or an Outcome*. Overall scores for the Structured Questions in a NAB should be aggregated and a cut-off score of 60% applied to the **total** marks obtained, rounding **down** to the student's advantage. Tests or retests must be taken exclusively from any **one** version of a whole NAB *i.e.* questions cannot be selected from across different NABS to construct a Unit test or retest.

The actual questions to be extracted from the NAB material to compile the revised tests or retests are detailed for each unit in Appendix 2 of the NQ Review Memo, only these questions should be used for Unit assessment and sent for Moderation if selected

Practical Activity

Assessment of practical activities is only required for the Systems & Control and Applied Electronics units, at Int2, H or AH level.(At Higher level only, the Structures & Materials unit requires a graph plotted from derived or given data as specified in IA4)

The Outcomes required to be encompassed by the Practical Activities for each Unit are detailed in Appendix 2 of the NQ Review Memo

For Applied Electronics Units *assessment evidence* should consist of:

- a) Clear statement of the problem set (the specification) ;
- b) Printout from the simulation software, showing successful system design ;
- c) Diagram (and/or photograph) of circuit constructed, clearly showing IC pinout connections used ;
- d) Short comment on the performance of the system (the evaluation).

a, b, c, & d must apply to the same problem

For Systems & Control Units *assessment evidence* should consist of:

- a) Clear statement of the problem set (specification of the mechatronic system);
- b) A flowchart of the control sequence;
- c) Program listing – printout from software (with inputs/outputs clearly labeled or described);
- d) A short statement, describing the system (perhaps a photograph) and its performance (evaluation).

a, b, c, & d must apply to the same problem

The actual practical activity tasks selected should be suitable for the final assessment of a unit, of a rigour suited to the level of that unit, preferably a variety of assessment tasks set to a class, making individual rather than group working easier for teaching staff to assess, the *standard of reporting should also reflect the level of the unit e.g. an evaluation for a Higher task should comprise more than just “The circuit/program worked as expected”*

Note there are no cut-off scores for practical activity assessment, rather, successful completion of each stage of the design/problem solving process (detailed above) being the criteria on which candidate success is based.