



National Qualifications Review Report

Craft and Design

Subject Review: Craft and Design

1 Subject summary

Summary of Courses

Intermediate 2 Craft and Design
Higher Craft and Design
Advanced Higher Craft and Design

Agreed actions

Actions for session 2001-2002

1. Visiting Examining at Advanced Higher

Remove the Visiting Examination and the 50 marks that it contributes to the external assessment of Advanced Higher *Craft and Design*. The Examination Paper and Extended Case Study coursework will be unaffected, as will the 100 and 150 marks that they respectively contribute to the external assessment (see section 2.4).

Actions which will begin in 2002-2003

2. Revise Design Assignment Arrangements at Intermediate 2 and Higher

SQA will issue an annual list of topics for Design Assignments at Intermediate 2 and Higher to address emerging coursework irregularities. The Design Assignment Assessment Criteria should also be revised to improve consistency and integrity and remove duplication. Internally-assessed Unit work and externally-assessed Course work should be distinct and appropriately levelled. In particular, the direct link between the *Product Model* Unit and the Design Assignment should be removed (see sections 2.1 and 2.2). This will be implemented for session 2002-2003.

3. Reduce volume of internal assessment

Reduce the volume of Unit assessment in Craft and Design Courses. This process will take place in two stages. The first stage will be a scoping exercise which will investigate whether there are straightforward and short-term ways to reduce the assessment burden — this will be implemented for session 2002-2003. The second stage will be part of the revisions proposed below (see section 2.3).

4. Revision of courses in Craft and Design

Revise the content, structure and assessment of Courses in Craft and Design. In revising the courses, the following factors will be considered:

- ◆ Course title and rationale
- ◆ focus and purpose of the Course (in particular whether the primary focus of this Course is product design)
- ◆ progression from Standard Grade
- ◆ relationship between Courses in Craft and Design and Practical Craft Skills
- ◆ amount of content in the Intermediate 2 and Higher Courses
- ◆ use of 20 hour Units
- ◆ volume of internal assessment
- ◆ volume and balance of external assessment

The revisions will be implemented as soon as practicable for centres and SQA (see sections 2.1, 2.2, 2.3 and 2.4).

Mid-long term actions

None.

2 Course report

2.1 Structure of Courses

Component Units

Intermediate 2 Craft and Design

Product Evaluation and Graphic Techniques	(20 hours)
Designing for People	(40 hours)
Designing for Manufacture	(40 hours)
Product Model	(20 hours)

Higher Craft and Design

Product Evaluation and Graphic Techniques	(20 hours)
Designing for People	(40 hours)
Designing for Manufacture	(40 hours)
Product Model	(20 hours)

Advanced Higher Craft and Design

Design Case Study	(40 hours)
Product Design Analysis	(40 hours)
Product Development	(40 hours)

Uptake in 2001 (figures for 2000 are in brackets)

Intermediate 2	647	(512)
Higher	2546	(2593)
Advanced Higher	20	(No CSYS Course previously)

Do the Courses meet the design criteria (1-7)?

No. At Intermediate 2 and Higher there are two 20-hour Units. There is also feedback from consultation to suggest that there is too much content in the Courses and that the *Product Evaluation and Graphic Techniques* Unit could be removed as the content and skills are implicit in the other Units. Furthermore, the assessment burden of the 20-hour *Product Model* Unit also causes problems, both in itself and in its linkage with the externally-assessed coursework item, the Design Assignment.

Issues and actions

1. Issue: 20-hour Units

At Intermediate 2 and Higher the Courses include two 20-hour Units at each level, which add to the internal Unit assessment burden.

Action: 20-hour Units

The 20-hour Units should be removed and replaced with 40-hour Units when the Courses are revised.

2. Issue: content of the Courses at Intermediate 2 and Higher

There is feedback from consultation to suggest that there is too much content. Respondents often say the Unit *Product Evaluation and Graphic Techniques* could be removed as the knowledge and skills are implicit in the other Units of the Course.

Actions: content of the Courses at Intermediate 2 and Higher

This issue will be addressed when the Courses are revised.

3. Issue: purpose of the Courses

The main focus of Intermediate 2 and Higher Craft and Design Courses is on product design. Only one 20-hour Unit (*Product Model*) is devoted to practical workshop activities. This Unit is not directly assessed (although there is a completed product/Coursework link) as part of the external assessment, and it does not sit comfortably with the rest of a product design Course. It should be noted that the practical workshop skills mentioned here are different from the modelling skills that are commonly used by designers. There is a legacy here from former woodwork and metalwork Courses that has to be addressed, as does the relationship and overlap with the newly emerging NQ Practical Craft Skills Courses (for which there is now a proposed Higher).

Action : purpose of the Courses

The issue of inclusion or otherwise of practical workshop skills should be addressed as part of the revision of Craft and Design Courses and consideration of their relationship and overlap with Practical Craft Skills Courses.

2.2 Assessment rationale

Relationship between external and internal assessment

Internal assessment

All Units are internally assessed against the requirements of the Outcomes and Evidence Requirements detailed in the Unit specifications. Craft and Design NABs include both objective assessments testing knowledge and understanding, and applied ‘design activity’ assessments (though design activity work also underpins the development of knowledge and understanding).

External Assessment

All Courses are assessed externally against the Grade Descriptions, as detailed in the Course Arrangements. Course awards will be graded A to C, and will be based on the total score achieved in the external assessment.

With the exception of the practical work produced for the *Product Model* Unit at Intermediate 2 and Higher, the external assessment will examine content material across all the Units of the Course. The external assessment has two components — a written examination Question Paper, and a folio of coursework material. Examination Question Papers test knowledge and understanding of the Course content, and coursework provides evidence of the application of this knowledge and understanding in practical design activities.

Relationship between internal and external assessment

Craft and Design Courses employ an integrative assessment methodology that allows use of coursework material as evidence of Unit achievement, and vice versa. There is however a clear separation between the parameters of Unit NAB assessments and the criteria for the external assessment of coursework. This ensures a clear performance differentiation between the requirements of Units and the Course.

The integrated assessment model encourages work at Unit level to be taken forward, extended and enhanced for presentation in the coursework component of the external assessment. It is acceptable for Unit work (based on the same topic) to be used in the *Design Assignment* (or *Extended Case Study* at Advanced Higher). Integrated assessment also reduces the potential burden of assessment as Course work can be used for ‘natural reassessment’ of any outstanding Unit work.

Estimates and appeals

Evidence assembled for estimates and assessment appeals purposes must show sufficient breadth and coverage of the content of the Units in each Course. This evidence must also fully cover the components and weighting of the external assessment and also be based on the Course Grade Descriptions.

Units at Advanced Higher, Higher and Intermediate 2 all offer headroom for candidates. However, it should be noted that the written tests in the NABs only offer limited headroom in respect of the examination Question Paper component. Prelims or other comparable assessment evidence are required to address this lack of headroom. The design activities associated with the NABs offer considerably more headroom than the objective tests. Where all or part of a Unit assessment is based on a folio of work, the evidence should also demonstrate that candidates have responded to a number of suitable design activities of an appropriate level and complexity.

Does the assessment approach meet assessment criterion 8?

Yes, with the exception of the current link between the Unit *Product Model* and the Design Assignment at Intermediate 2 and Higher.

Issues and actions

Issues: Relationship between the *Product Model* Unit and the external component, Design Assignment

Currently there is a link between the Unit *Product Model* and the Design Assignment. The crafted 'product' made for the *Product Model* Unit is effectively the 'solution' to the design brief for the externally-assessed Design Assignment. Although not externally assessed directly, the prototype 'product' is evaluated (against the specification) in the Design Assignment, which means that completion of coursework is dependent on completion of the Unit.

Action: Relationship between the *Product Model* Unit and the external component, Design Assignment

This link between the finished Unit and the Design Assignment should be removed.

2.3 Internal assessment of Units

Description of the overall approach to internal assessment

All Units are internally assessed against the requirements of the Outcomes and Evidence Requirements detailed in the Unit specifications. Craft and Design NABs include both objective assessments testing knowledge and understanding, and applied 'design activity' assessments (though design activity work also underpins the development of knowledge and understanding).

A summary of the internal Unit assessment is given in Appendix 1.

Note on comparability with other Courses in the same broad subject area

Related Courses include Art and Design, Graphic Communication and Technological Studies.

The internal assessment in NQ Craft and Design Courses is not dissimilar to Graphic Communication and Technological Studies Courses, in that there are both knowledge-based and skills-based assessments. However, the total volume and burden of assessment is greater in Craft and Design.

Graphic Communication, Technological Studies, and Craft and Design (test-based questions) NABs have only limited headroom. However, the NABs based on design activity offer more headroom. Art and Design is similar to Craft and Design in this respect (ie there is more headroom in practical work than in written tests).

Does the internal assessment of the Units meet the assessment criterion 9?

No. The volume of internal Unit assessment is high.

Issues and actions

Issue: volume of internal Unit assessment

Currently the volume of internal Unit assessment is high when compared to the agreed norms for the Subject Review. There is a large skills base to this Course and a lot of this activity is integrated with normal teaching and learning. However, this has been raised as an issue by respondents to the consultation.

Actions: volume of internal Unit assessment

Reduce the volume of internal Unit assessment in Craft and Design Courses. The strategy to reduce internal Unit assessment will have two stages.

In the short term, a scoping exercise will be carried out to see if all of the assessments are critical and whether some can be omitted by making inferences from other assessments.

In the mid- to longer-term, the volume of internal assessment should be reduced to the agreed norms for Unit internal assessment.

Note: A great deal has been done in the previous two sessions to reduce the complexity and volume of internal assessment in Craft and Design Courses. This has been beneficial for candidates and is in the process of 'bedding in' at the moment.

2.4 External assessment of the Course

Description of the overall approach to external assessment

At Intermediate 2 and Higher level the Courses are externally assessed by a combination of Question Paper and Design Assignment. The same approach is used at Advanced Higher level, but with the addition of a visiting examination. The examination is used to test the knowledge and understanding covered by the Course. The Design Assignment builds on the work that is done for the Units, and is used to test and grade applied skills and knowledge. At Intermediate 2 and Higher the external assessment of the Course will examine material from across the Units, with the exception of the work produced for the *Product Model* Unit. The visiting examination at Advanced Higher takes the form of a ten-minute presentation by the candidate, followed by a 20-minute discussion on critical aspects of the folio. The details are outlined below.

Intermediate 2 — Question Paper of 2 hours, worth 60 marks and a Design Assignment worth 90 marks. The examination and design assignment contribute 40% and 60% respectively to the Course assessment.

Higher — Question Paper of 2 hours and 30 minutes, worth 80 marks and a Design Assignment worth 120 marks. The examination and design assignment contribute 40% and 60% respectively to the Course assessment.

Advanced Higher — Question Paper of 3 hours worth 100 marks; an extended portfolio of work produced in response to the Design Case Study, worth 150 marks; and a visiting examination by an Examiner, worth 50 marks. The examination, portfolio and visiting examination contribute 33%, 50% and 17% respectively to the Course assessment.

Note on comparability with other Courses in the same broad subject area

Craft and Design is one of four subjects in the Technical Education suite, the others being Graphic Communication, Practical Craft Skills, and Technological Studies.

Craft and Design and Graphic Communication are similar in that both cover both knowledge and practical skills. This is reflected in their external assessment — the examination tests knowledge and understanding, and coursework assesses practical skills.

Craft and Design is heavily focused on developing a candidate's design ability and this is reflected in the coursework's 60% external weighting. Graphic Communication also has a considerable skills base, but the coursework component only has a 30% weighting, as both drawing skills and knowledge and understanding are tested in the external examination.

Craft and Design has much in common with the more creative and aesthetic subjects such as Art & Design and Drama. Currently, Art and Design has four external components — an examination and three practical skills-based components. Drama has three external components — an examination and two practical skills-based components. Craft and Design, with two external assessment components, compares well with these other creative subjects.

Does the external assessment of the Courses meet assessment criterion 10?

Yes, at Intermediate 2 and Higher level

No, at Advanced Higher

Issues and actions

Issue: Visiting Examination at Advanced Higher

At Advanced Higher level the examination tests knowledge and understanding across the Course, and the coursework assesses design skills. The rationale for the visiting examination is not clear, as it covers both the knowledge and understanding aspects of the Course covered by the exam, and the design skills used to carry out the coursework. There is also no reference in the Grade Descriptions at Advanced Higher that cover the ability to be able to speak about Craft and Design. In addition the following have to be considered:

- ◆ Comparisons to other technical subjects such as Graphic Communication that only have two aspects to the external Course assessment — an exam and coursework
- ◆ the additional candidate stress (most are very nervous about the Visiting Examiner) and the additional workload in preparing for Visiting Examination
- ◆ Additional workload for the teacher/lecturer in preparing candidates for the Visiting Examiner and also in helping with the organisation
- ◆ Additional workload for the SQA Co-ordinators
- ◆ Getting release for Visiting Examiners from centres
- ◆ Quality assurance of Visiting Examination

Removal of the Visiting Examination (and the 50 marks it contributes to the Advanced Higher external assessment) would create external component weighting uniformity across Craft and Design Courses (ie 40 % examination/60 % coursework).

Action: Visiting Examination at Advanced Higher

Remove the Visiting Examination and the 50 marks that it contributes to the external assessment of Advanced Higher Craft and Design. The examination paper and coursework will remain unaffected, as will the 100 and 150 marks that they respectively contribute to the external assessment.

2.5 Quality Assurance

Description of the overall approach to quality assurance

SQA's standard setting, vetting and marking procedures apply. Both the examination and the coursework are externally marked by SQA. Intermediate 2 and Higher Design Assignments are externally marked in the standard way — Markers' Meeting followed by home marking. However, the Advanced Higher Extended Case Study is centrally marked to take account of standardisation issues and the subjective nature of some of the material. Attendance at all markers' meetings is mandatory for all markers.

Do the quality assurance arrangements for the Courses meet criterion 11?

Yes

Issues and actions

Issue: Intermediate 2 and Higher Design Assignment irregularities

Intermediate 2 and Higher Examining Teams have commented on a number (about 30) of irregularities relating to coursework produced for the externally-marked Design Assignment. Most of these irregularities relate to a perception that coursework material was either teacher-led or compiled as a class activity, or was re-cycled from the previous year. This should, however, not be confused with the effective practice of using a theme approach for the Design Assignment. Examples of such irregularities include:

- ◆ Problem Analysis and Specification: same wording used for both brief and problem, indicating that these had been supplied by the teacher
- ◆ Generation of Ideas: same illustrations used for drawer joints
- ◆ Outline Planning for Manufacture: all details for drawer construction follow the same steps, including the same measurements used within the steps
- ◆ Overall, little investigation carried out by individuals and the final products were too similar to have involved individual thinking and creativity in the Development and Synthesis stages

The Intermediate 2 and Higher Design Assignment Assessment Guidance documents both clearly state that, 'the work produced must be entirely a candidate's own work'. Further guidance on the integrity of the external assessment is also given in these documents.

Action: Intermediate 2 and Higher Design Assignment irregularities

SQA will issue a list of topics for Design Assignments at Intermediate 2 and Higher. Hopefully, this will help prevent coursework irregularities. The Examining teams also hope it will provide a better guide for candidates, as many struggle with trying to identify a suitable topic for their Design Assignment.

2.6 Administration

Issues and Actions

None

3 Summary of review process and issues raised

Who	Mechanism	Issues
Subject specialists	Comments received: by phone/e-mail/post	<p>Internal assessment Too much internal assessment/reassessment, a burden on time, volume/number of assessment Breaking down marks/reduce cut off scores</p> <p>External assessment Marking scheme for Design Assignment too prescriptive Alignment of Coursework with Unit assessments Unit 4 link to Design Assignment</p> <p>Content Difficulty with contextualising industrial applications/Designing for Manufacture Too much Course content in Intermediate 2 and Higher Reduce number of Units to allow candidates time to focus on external components Course title/emphasis inappropriate</p> <p>Other comments Pleased with Course/retain status quo Dissemination/feedback of component marks from SQA for Design Assignment and question paper for appeal purposes Uniform assessment of Intermediate2/Higher Against Higher Still philosophy SQA Administration and documentation</p>
SQA co-ordinators	SQA SAMs and CRMs	No specific issues raised
Principal Assessors and Senior Moderators	PA/SM reports considered	Design Assignment irregularities Course Structure requires major revision Workshop activities/part played in Course
Units within SQA	Views sought	No specific issues raised
Candidates and parents	SPTC survey	No specific issues raised
Other surveys and reports	Various	No specific issues raised

Appendix 1 – internal assessment activities

Higher: Summary of Units and Outcomes

Product Evaluation and Graphic Techniques 20 hours	Instrument	Teaching/Learning – Process	Unit Assessment – Product
Carry out a consumer evaluation of a commercial product.	Assignment	17hrs	1.15 hrs
Apply graphic techniques in the context of designing.	Coursework Graphics - 10 hours across Course	2hrs	4 hrs*
Designing for People 40 hours			
Explain the factors, which influence designing for people.	Written Test	3hrs	30 mins
Describe how a commercial product is designed.	Written Test	1hr	30 mins
Produce a design specification.	Design Activity	30 mins	1 hr
Produce designs for people.	Design Activity	1hr	2.30 hrs
Designing for Manufacture 40 hours			
Identify the materials and manufacturing processes used in the manufacture of selected products.	Investigation	6hrs	1hr
Describe how modern materials and manufacturing processes influence design.	Written Test	Time allocated above	50 mins
Investigate and develop ideas for the industrial/commercial manufacture of a proposed solution to a design specification.	Design Activity	6hrs	2.30 hrs
Product Model 20 hours			
Plan the production of the prototype or presentation model of a proposed solution to a design specification.	Practical Exercise	2hrs	2 hrs
Construct the prototype or presentation model of the proposed solution.	Practical Exercise	2hrs	5 hrs

*Graphics are integrated across all Units.

Intermediate 2: Summary of Units and Outcomes

Product Evaluation and Graphic Techniques 20 hours	Instrument	Unit Assessment – Product
Carry out a product evaluation	Assignment	1 hour
Produce graphics relating to specific design situations	Coursework Graphics - 10 hours across Course	3 hours*
Designing for People 40 hours		
Demonstrate knowledge of aesthetic factors through their application to specified design situations	Design Activity	30 mins
Demonstrate knowledge and understanding of the ergonomic factors which influence designing for people	Design Activity	30 mins
Prepare a design specification	Design Activity	1 hr
Design a solution to a given situation	Design Activity	2 hrs
Designing for Manufacture 40 hours		
Identify materials and manufacturing processes for specified products	Investigation	1 hr
Investigate and develop ideas for the production of a proposed solution to a design specification	Design Activity	50 mins
Produce working drawings for the realisation of a proposed solution to a design brief	Design Activity	2 hrs
Product Model 20 hours		
Produce a prototype or presentation model of the proposed solution to a design specification	Practical Exercise	3/ 4 hrs

*Graphics are integrated across all Units.

Advanced Higher: Summary of Units and Outcomes

Product Design Analysis 40 hours	Instrument	Teaching/Learning – Process	Unit Assessment – Product
Analyse the performance of a commercial product.	Design Activity	38 hours on folio	
Analyse the performance of a commercial product.	Written Test		30 – 40 mins (2hrs prep)
Analyse the production of a commercial product.	Design Activity		
Analyse the production of a commercial product.	Written Test		30 – 40 mins
Product Development 40 hours			
Identify a development need within an existing commercial product.	Design Activity	If same product as Unit 1 okay for time	
Identify a development need within an existing commercial product.	Written Test		30 – 40 mins
Produce a design solution to meet the specification and satisfy the brief.	Design Activity		
Produce a design solution to meet the specification and satisfy the brief.	Written Test		30 – 40 mins
Produce outline proposals for the commercial manufacture of the design solution.	Design Activity		
Produce outline proposals for the commercial manufacture of the design solution.	Written Test		30 – 40 mins
Design Case Study 40 hours			
Investigate the development of design in a commercial product.	Design Activity	50/50	
Evaluate the factors, which may influence the future development of the product.	Design Activity		