

Research and Information Services

MONITORING STANDARDS REPORT



Comparison of Craft and Design Higher 1992, 1998 and 2004

Summary

Differences between the arrangements across the years

The 1992 arrangements required candidates to have engineering and technical knowledge with minimal design knowledge. By 1998 the arrangements were design-led, with mass production, design, market factors, and environmental considerations. The 2004 arrangements developed the subject through consideration of current designers, the history of design and aesthetics.

Level of demand of the arrangements

The demand has increased markedly due to the content of the arrangements and level of required response from 1998 to 2004. The extra half hour for the external exam paper from 2004 on is judged to compensate for this.

Differences between the Question papers and Marking Guidelines across the years

1992: The question paper is engineering-led with question 1 (a-j) requiring tick boxes to be completed for the answers. The majority of the following questions provide drawings which require written or drawn answers. Due to the design of the paper candidates were unable to expand on answers. Questions covered woodworking and timber, metalworking, plastics with a final section on design.

The marking guidelines for questions 2 onwards provide bare information on the required information for each question.

1998: The question paper is design-led, with the majority of the questions requiring written answers. There are no questions which require to be answered by tick boxes. The breadth of knowledge required by the candidate is greater and wide ranging in scope. There are clear links to industrial Product Design through, materials, techniques, and consumer issues. Questions covered anthropometric and ergonomic data in design, the generation of ideas and environmental issues

The marking guidelines provide clear information on the responses required.

2004: The question paper is design-led and has a strong visual element. As with the 1998 paper, the majority of the questions require written responses. Questions on modern designers and design are included, and candidates require knowledge of the market to be able to answer several questions. The links to industrial requirements are strengthened through questions on brand image, aesthetics, and anthropometric data. Candidates are required to provide comparisons on the changes in design through advances in technology, materials, and manufacturing.

The marking guidelines provide detailed, clear information on the responses required. In many questions markers are required to assess if candidates have provide full or extended responses and information is provided for the allocation of marks.

Effect of these differences on level of demand of the arrangements

The Question Papers reflect the growth and change in the subject from an engineering-based subject to a design-based one. By 2004 candidates require an extensive range of design, commercial and consumer knowledge which provides an excellent preparation for further academic study at advanced level.

Borderline A scripts

By 2004 the paper was allocated two and a half hours, thirty minutes longer than in 1998. Given that, the level of response between candidates is comparable. (No scripts were available for 1992)

Borderline C scripts

By 2004 the paper was allocated two and a half hours, thirty minutes longer than in 1998. Given that, the level of response between candidates is comparable. (No scripts were available for 1992)

Findings

1 Syllabus

1.1 Changes to general approach

Compared with 1992 there has been *a huge change in the general approach* giving a more academic course with greater depth by 2004. The 1992 paper was not modular in form, was engineering based and required completion of a practical project. The paper started with a multiple-choice first section on engineering topics which was deemed to be less rigorous for candidates than the present format. This paper gave no scope for personal opinion and required minimal design knowledge as the emphasis was on workshop skills.

The breakdown was:

20% Coursework
50% Project
30% Written paper

Comments

- ◆ Old revised Higher: this was considered to be a more free structure, which provided greater opportunity for creativity for teachers and pupils.
- ◆ The old Higher was based on learning outcomes. The new Higher is based on units.
- ◆ There was a massive change in the assessment from a summative structure in the earlier paper to NABs in 2004.
- ◆ By 2004 the course was structured, much more rigid and inflexible.
- ◆ No fully crafted artefacts were required by 2004 and more emphasis was placed on the portfolio by that stage.

- ◆ The course has changed from modelling in the school workshop to modelling a commercial product. (Modelling in its broadest sense.)
- ◆ By placing a tighter interface between the student/designer and client, the course has moved to the consumer as the final arbiter of design
- ◆ There has been a move away from a mechanical, manufacturing based approach to a design led approach:
 - The level of Design has been strengthened while Evaluation and Graphic Techniques have been introduced.
 - Structured folios have lost all relevance. The folio is now formulaic and based on graphic techniques.

1.2.1 Elements added to the more recent syllabus

- ◆ Emphasis on folio generation on the revised Higher that disadvantaged candidates.
- ◆ 2004: Inclusion of NABs made the course more difficult to teach and more demanding for students due to excessive assessment and tight time schedules which did not allow room for experimentation.
- ◆ 2004: 3-D modelling and up to date composite materials.
- ◆ 2004: Extended range of ergonomics

1.2.2 Elements missing in the more recent syllabus

- ◆ Workshop element
- ◆ Fully crafted artefact
- ◆ Modelling
- ◆ Designing in the exam paper

- ◆ The unrevised Higher was multiple-choice, engineering-based not design-based, and reliant on workshop skills.
- ◆ The structure of the syllabus has changed. The Revised Higher was vague and open, with too much scope. By 2004 the Higher Still course was devised in a tight unitised structure which may have given inexperienced staff more structure and direction.
- ◆ The content has changed due to the move away from the fully crafted artefact to a more realistic design led model.

1.2.4 Has this made the syllabus as a whole more demanding?

- ◆ The removal of the fully crafted artefact gave the design element more relevance and initially created space which gave opportunity for effective use of modelling. However, this space was lost with the requirements of NABs which left less time for reflection.
- ◆ Papers have moved from multiple-choice questions and are now more demanding due to the enhanced levels of written/ communication skills required.
- ◆ NABs made the course more demanding on time but ensured that the pupils had a more grounded, progressive experience.

- ◆ Revised arrangements were:
 - 30% Design knowledge.
 - Designing 30% (Paper 1)
 - Design folio 20%
 - Practical abilities 20%
- ◆ In the Higher Still course the design assignment drove the course. This was deemed to have significantly imbalanced the structure leading to a drop in attainment in Paper 1 from approximately 60% to 40 %
- ◆ In 1992 the course was for apprentice craftsmen. By 2004 the candidates were mini designers with a demand for knowledge of consumerism and the requirements of target markets.

1.3.1 Depth of coverage of the syllabus

The new syllabus is deeper in different areas of the subject.

- ◆ The revised Higher gave knowledge and understanding of processes and techniques.
- ◆ Revised Higher dealt with how an artefact was to be made.
- ◆ Higher Still introduced consideration of mass production, industrial manufacturing techniques, and design factors.
- ◆ Higher Still considered the target market and consumer linked to psychological implications of design.
- ◆ Recent papers require a greater appreciation of design and its relevance to society. The students are required to consider the end user and target markets reflecting the importance of design to society.
- ◆ Inclusion of the graphic techniques by 2004.

1.3.2 Breadth of coverage of the syllabus

- ◆ The breadth of the syllabus is greater now due to the implications of new technology and materials. Pupils now need to have knowledge of a wider range of techniques ranging from those of 20 to 30 years ago to the present period.
- ◆ The course is now more academic and has greater depth than in the past with the emphasis placed on designing, evaluation, and graphic techniques.
- ◆ The revised Higher was defined by design which could be easily made by pupils where the Higher Still course moved the subject towards commercial Product Design.
- ◆ The 1998 and 2004 papers provide a structure which moves naturally through the design process.

2 Assessment instrument

2.1 Trends or gradual changes in the structure

- ◆ The 1992 unrevised Higher consisted of one paper which covered both design knowledge and designing. This paper consisted of 6 compulsory questions and a

further choice of two design questions which covered all the assessed elements of the course. In addition a practical element comprised of a design folio and practical project which were assessed in school.

- ◆ 1992 Revised Higher consisted of four assessed elements, 200 marks in total.
 - Paper 1 Design knowledge with an allocation of 60 marks
 - Paper 2 Designing with an allocation of 60 marks.
 - Practical project with an allocation of 40 marks (internally assessed , externally moderated)
 - Design folio with an allocation of 40 marks(Internally assessed, externally moderated)
- ◆ 2004 paper consisted of four National Qualification units.
 - 2 half units (each 20 hours): Product evaluation and Graphic Techniques; Product Model
 - 2 Full units (each 40 hours): Designing for People; Designing for Manufacture
 - Design assignment (externally assessed) 20 hours.
 - To pass the Higher Still units candidates had to pass NABs (internally assessed)

Comments

- ◆ There was a noticeable and dramatic shift from the old pre-revised Higher to the 1998 paper. Trends in the structure of assessment encouraged the boundaries of the syllabus to be explored and considered in greater depth than before. 1992 to 1998 saw huge change and the period of 1998 to 2004 could be seen to be a time of refining and preparation for the future with the stronger emphasis on vital elements such as study of anthropometric and physiology.
- ◆ Later papers encourage a different type of pupil and demand that they are questioning and discerning. This process often gives pupils self-confidence and empowerment in their abilities.
- ◆ The structure of the Higher Still questions was designed to make candidates explain, describe, and explore, all transferable skills. This was much more
- ◆ demanding for markers as it required value based judgements during assessment. Marking instructions in Higher Still gave greater opportunities to award marks than instructions in previous years.
- ◆ 1992 was a traditional, engineering-based course which added in design. By 1998 it was a design-based paper, led by consumer needs. It required students to reason and discuss over a wide range of topics, historical, environmental and to predict future trends.
- ◆ The new marking scheme of 2004 gave confidence to teachers as it contained a reinforcement of the subjects.

2.2 Repetition of papers, sections, types, or tasks

- ◆ Paper 1 1998 and Paper 1 2004, have the same types of questions. Question papers between 1998 and 2004 have not changed in their basic language and

structure. However, the level of response required by candidates in 2004 was more extensive.

- ◆ Time allocation:
 - 1992 entire paper was to be completed in 2 hours
 - 1998 Paper 1 was allocated 2 hours Paper 2 allocated 2 ½ hours
 - 2004 Paper 1 was allocated 2 hours. The Design assignment equivalent to paper 2 extended case study of at least 20 hours minimum.
- ◆ 1992 Section 2: Pre-revised paper equates to paper 2 1998, which equates to the Design Assignment of 2004.
- ◆ 1992: No analysis was required. Candidates moved straight from a provided specification into investigation of ideas. Because the space for answers was on the script, it restricted the response. Question A in Section 2 asked for a sketch for the final design showing dimensions but left minimal space to do so.
- ◆ 1992: Question 6: Marking weight was allocated to the quality of sketch work rather than the suitability of the design. Quality of sketching in 1998 only accrues 3 marks where design accrues 10 marks. To add to the rigour of Paper 2 in 1998 candidates had to write their own design specification. The 2004 design specification is now much more detailed and covers pertinent issues such as function, aesthetics, and safety.
- ◆ The format of the questions in 1998 was typically discuss, list, explain, describe, suggest. By 2004, the questions required more description and explanation.
- ◆ 1998 and 2004 used exemplar subject materials in the question paper which students would be aware of in their day-to-day life.
- ◆ 1998 structure provides simpler early questions which become more testing as the paper progresses.
- ◆ 1998: The marking allocation was 60 marks split into small chunks over the questions, which makes it easier for candidates to achieve. In effect, pointing students at the marks.
- ◆ Question 3a in 1998 asks candidates to produce initial sketches of two to three different ideas, thus demanding an increased response and investigation. It also makes further demands on the candidates through specified requirements.
- ◆ 2004: The paper provided students with the opportunity to answer questions on the same topic from a different aspect. Question 5 and Question 10 dealt with the design of tea/ coffee pots while Question 1 and Question 9 dealt with Lighting design and related anthropometric data. It was considered that this was an effective structure for the course with great relevance to modern society.
- ◆ The 2004 paper attempted to assess candidates' knowledge of anthropometric and ergonomic data through question 7.
- ◆ By 2004 issues are being treated more globally which means that the candidates have to identify the issues, which requires a deeper level of understanding, and more pressure during an examination.
- ◆ The format and look of the paper has changed over the years, by 1992, it appears mechanical, clinical and cold. By 1998 and 2004, the layout is much more approachable with stronger and helpful text leading students to understand the loading of the questions.

- ◆ In the past, the exemplar materials in the paper were printed in black and white which did not give candidates the opportunity to explore aesthetic issues through colour.

2.2.1 Performance of candidates in these papers/tasks/questions

- ◆ Candidates' responses for Paper 1 demonstrate that they are very good at processes and where there is a right or wrong answer. They are equally good at answering factual questions. When opinions are sought to describe thought processes and concepts, candidates are less able.
- ◆ 1992 ergonomics was about anthropometrics. By 2004 it covers ergonomic and anthropometric data.
- ◆ There has been a huge change in the status of aesthetics in the subject area in an attempt to raise the profile of aesthetic considerations, to the same level as function. Aesthetics is a difficult subject to teach and to discuss with less able students finding this difficult to grasp. It requires an exploration of emotion which is a personal, difficult area for some teachers and pupils.

2.3.1 Coverage of syllabus in question papers

The subject matter has not changed significantly. However, the content and level of response required has increased markedly.

2.4.1 Level of demand

The questions of 2004 and 1998 are comparable.

3 Scripts

3.1 A/B and C/D graded scripts

- ◆ 1992 candidates required 50-60% for an A grade pass. In 1992 papers A,B,C,D show a mark range which was very compressed at approximately 30-60 marks.
- ◆ In 1992 candidates were heavily reliant on the practical project to secure higher marks. By 2004 candidates were more reliant on the range of the design process.
- ◆ For its time, the 1992 paper was as rigorous as that of 2004. However, the emphasis has changed from the practical work to the design led of today with the inclusion of health, safety, and environmental issues.
- ◆ 2004 candidates required 75% for an A grade pass. There is a bigger spread of marks in the upper and lower ranges.
- ◆ The Design Assignment of 2004 cannot be compared with Paper 2 of 1992 and 1998. Paper 1 of 2004 is comparable with Paper 1 of the Revised Higher. The period of 1992 to 1998 saw an improvement in the level of response from candidates overall. In 1992 the A and B candidates had a wide range of marks as did the C and D candidates but they could be identified within differing marks ranges
- ◆ A/B out of 80 marks, 50 to 70 marks were above the halfway line.
- ◆ C and D were below the halfway line but they were mixed.

- ◆ It was noted that these results were affected by the internal school-based practical elements which influenced results.
- ◆ A/B and C/D in 1998 and 2004 were comparable in two distinct groups although mixed within the groups. Once a scaling factor was applied to factorise the 60 marks paper to the equivalent of an 80-mark paper they showed a remarkable similarity in the level of response.