



Non-Exam Assessment:

Internal Synoptic Project

NCFE Level 1/2 Technical Award in Creative Design and Production (603/7003/8)

Centre copy

SAMPLE

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Introduction

The internal, non-exam assessment (NEA) takes the form of an internal synoptic project. It is a formal assessment that requires the learner to independently apply an appropriate selection of knowledge, understanding, skills and techniques, developed through the full course of study, in response to a real-world situation, to enable them to demonstrate an integrated connection and coherence between the different elements of the qualification.

The NEA will contribute 60% towards the overall qualification grade and therefore it is important that the learner produces work to the highest standard that they can. The learner, therefore, should not be entered for the internal synoptic project until they have been taught the full course of study, to ensure that they are in the best position to complete the internal synoptic project successfully.

What is synoptic assessment?

Synoptic assessment is an important part of a high-quality vocational qualification because it shows that learners have achieved a holistic understanding of the sector and that they can make effective connections between different aspects of the subject content and across the breadth of the assessment objectives in an integrated way. The Department for Education (DfE) has consulted with Awarding Organisations and agreed the following definition for synoptic assessment:

“A form of assessment which requires a candidate to demonstrate that s/he can identify and use effectively in an integrated way an appropriate selection of skills, techniques, concepts, theories, and knowledge from across the whole vocational area, which are relevant to a key task.”

Synoptic assessment enables learners to show that they can transfer knowledge and skills learnt in one context to resolve problems raised in another. To support the development of a synoptic approach, the qualification encourages learners to make links between elements of the course and to demonstrate how they have integrated and applied their increasing knowledge and skills.

As learners progress through the course, they will use and build upon knowledge and skills learnt across units. The internal synoptic project will test the learners' ability to respond to a real world situation.

Information for learners

Introduction

The internal, non-exam assessment is a formal assessment that will contribute 60% towards your overall qualification grade. It takes the form of a synoptic project that will require you to draw on your knowledge and understanding of the entire qualification, it is therefore important that you produce work to the highest standard that you can.

You will be assessed on your ability to independently select, apply and bring together the appropriate knowledge, understanding, skills and techniques you have learnt throughout your course of study, in response to a brief, set in a real-world-situation.

The non-exam assessment will be assessed holistically using a levels of response mark grid and against 5 integrated assessment objectives (AOs). These assessment objectives and their weightings are shown below.

Assessment objectives
AO1 – Recall knowledge and show understanding The emphasis here is for learners to recall and communicate the fundamental elements of knowledge and understanding. 12 marks (12.5%)
AO2 – Apply knowledge and understanding The emphasis here is for learners to apply their knowledge and understanding to real world contexts and novel situations. 12 marks (12.5%)
AO3 – Analyse and evaluate knowledge and understanding The emphasis here is for learners to develop analytical thinking skills to make reasoned judgements and reach conclusions. 12 marks (12.5%)
AO4 – Demonstrate and apply relevant technical skills, techniques, and processes The emphasis here is for learners to demonstrate the essential technical skills relevant to the vocational sector, by applying the appropriate processes, tools, and techniques. 32 marks (33.3%)
AO5 – Analyse and evaluate the demonstration of relevant skills and techniques, and processes. The emphasis here is for learners to analyse and evaluate the essential technical skills, processes, tools and techniques relevant to the vocational sector. 28 marks (29.2%)

You should not start your internal synoptic project until you have been taught the full course of study. This will ensure that you are in the best position to complete the internal synoptic project successfully.

NCFE Level 1/2 Technical Award in Creative Design and Production (603/7003/8)

Non-Exam Assessment: Internal Synoptic Project

Sample

Learner instructions

- Read the project brief carefully before you start the **work**.
- You **must** clearly identify and label all of the work you produce during the supervised time.
- You **must** hand in all of your work to the supervisor at the end of each timed session.

Learner information

- This internal synoptic project will assess your knowledge and understanding from across the qualification.
- The maximum mark for this assessment is **96**.
- The suggested completion time for this internal synoptic project is **16 hours**.
- All of the work you submit **must** be your own.
- All work needs to be saved and then used later as part of a digital submission of your digital portfolio. You will need to scan your work and take photographs of the prototypes and samples.

Please complete the details below clearly and in BLOCK CAPITALS.

Learner name _____

Centre name _____

Centre number

Learner number

Learner signature _____

Project brief

Scenario

You work full time as a designer for a creative design agency.

Your line manager has given you a design project to work on. They want you to capture your progress of the project by creating a digital portfolio of the different stages undertaken, ready for an appraisal at the end of the project.

Your line manager has sent you the following information by email:

The client owns an eco-friendly, home furnishing chain and would like to launch a new campaign to influence behaviour by increasing customer visits to their high street shops.

They would like a bespoke item displayed in the shop window that is eye catching and have said that it can either be functional or design initiated.

They have a varied taste but have provided you with two particular design movements they would like you to explore with your design.

Client brief

Client type:

- commercial – eco-friendly, home furnishings.

Client requirements

- Design a one-off, bespoke item of your choice that will be displayed in a high street shop window.
- You must consider the impact of the item you design on the environment.
- The item you design must be inspired by either:
 - looking to the past and reflecting the arts and crafts movement
 - or
 - looking to the future and reflecting post-modernist ideas.

Additional information

Each task will require you to produce a range of evidence which you will then select from and include in your digital portfolio.

You should read all task instructions carefully and keep all of the work you produce so that you have a range of evidence to select from when constructing your final digital portfolio.

Your digital portfolio should include the task title for each section so that it is clear how your work relates to the requirements of each task.

Assessment tasks and mark schemes

Task 1 (a)

1 (a) Research methods and techniques	
Recommended time:	3 hours
Content areas assessed:	1: Design and production in context 2: Design materials and processes
Assessment objectives:	AO1 AO2 AO3
You are required to: Analyse the brief in order to identify the key needs of the client. Apply a range of research methods and techniques to develop at least three different initial ideas in response to the brief. You will then select what you feel are the most relevant examples of your research findings, including how they have informed your ideas, and include them in your digital portfolio. You are permitted to use the internet to support your research, but you must reference the source of any work and/or ideas that are not your own. [12 marks]	
Evidence	<ul style="list-style-type: none">• Evidence of your research to include in your digital portfolio:<ul style="list-style-type: none">○ annotated primary sources○ annotated secondary sources○ potential materials – samples, experiments○ annotated sketches○ notes on environmental issues linked to your design ideas mind maps○ mood boards○ annotated draft sketches.○ a list of references for the sources you have used○ a copy of your internet browsing history.

1 (a) Research methods and techniques	
Marks	Descriptors
10–12	<p>AO3: Makes judgments on the research findings, to inform their design, that are excellent, highly detailed and highly relevant to the requirements of the brief.</p> <p>AO2: Applies an excellent understanding of a wide range of research methods and techniques that include comprehensive and highly detailed links to the requirements of the brief.</p> <p>AO1: Excellent recall of knowledge and understanding of environmental impacts of a product that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO3: Makes judgments on the research findings, to inform their design, that are good, mostly detailed and mostly relevant to the requirements of the brief.</p> <p>AO2: Applies a good understanding of a range of research methods and techniques that include mostly detailed links to the requirements of the brief.</p> <p>AO1: Good recall of knowledge and understanding of environmental impacts of a product that is mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO3: Makes judgments on the research findings, to inform their design, that are reasonable, have some detail and some relevance to the requirements of the brief, though this may be underdeveloped.</p> <p>AO2: Applies a reasonable understanding of research methods and techniques that include some links to the requirements of the brief and have some detail, though may be underdeveloped.</p> <p>AO1: Reasonable recall of knowledge and understanding of environmental impacts of a product that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p>
1–3	<p>AO3: Makes limited judgments on the research findings, to inform their design, with minimal detail and little to no relevance to the requirements of the brief.</p> <p>AO2: Applies a limited understanding of a minimal range of research methods and techniques that include minimal detail and little to no relevance to the requirements of the brief.</p> <p>AO1: Limited recall of knowledge and understanding of environmental impacts of a product that has minimal detail and little to no relevance to the requirements of the brief.</p>
0	No rewardable material

Indicative content

It is not a requirement that the learner formulates a response in their digital portfolio specifically against each assessment objective (AO) as laid out in the indicative content (IC). The evidence provided by the learner for each AO may be embedded throughout the evidence submitted for the task. Whilst it is likely that the responses will be illustrated by the IC points below, credit should be given for different approaches, providing they meet the key requirements of the task and mark scheme.

AO1: Recall knowledge and show understanding

As one of the client's needs is to consider the impact on the environment, learners may make reference in their annotations of research findings (such as work of other designers/magazine articles) to the following areas of knowledge:

- sustainable design:
 - the 6 Rs:
 - recycle
 - reuse
 - repair
 - rethink
 - reduce
 - refuse
- unsustainable design:
 - removal of trees for use in raw materials
 - loss of habitat for wildlife
 - finite resources
 - pollution from manufacturing processes
 - damage to the environment in resource obtainment
 - transportation of resources/ecological footprint
 - damage to the environment in product disposal
 - pollution from waste materials
 - increased disposal in landfills.

AO2: Apply knowledge and understanding

When considering placement within the bands, attention should be given to the range of different types of research method used, as well as the relevance and usefulness of the findings in terms of the brief. The digital portfolio will include a range of research methods and techniques such as:

- research methods and techniques:
 - primary:
 - interviews – such as interviewing a practitioner who works with sustainable materials, this could be evidence with a transcription with highlighted text and annotations to show how parts of the interview will inform the learners own work
 - real-world observations such as observing a technician working with a reusable material, photographs of this process could be annotated with learners notes to show how parts of the observation will inform their own ideas

- questionnaires to the class to find out preferences of what they like to see in window displays of high street shops, responses could be collated to show how the findings have informed ideas for their own design work
- work of others such as looking at examples of existing window displays, notes or photographs could be annotated to show how these examples may inform their own design ideas
- secondary:
 - books such as key texts on design movements, pages could be scanned and annotated to show how this has informed ideas for own design work
 - magazines that relate to design, extracts could be annotated to show this has informed own design ideas
 - websites such as those of design practitioners that are using eco friendly materials, printouts could be annotated to show how this will inform own ideas
 - work of others, such as following high street shops that promote eco friendly products, screenshots could be annotated to show how this will inform own design ideas
- product analysis such as exploring existing products that are made from recycled materials, photographs/scans could be annotated to show how this will inform own design ideas
- potential materials such as exploring materials or existing items that could be restored or recycled, samples could be photographed/scanned and annotated to show how this will inform own design ideas
- resource availability such as looking at retailers that sell/source eco-friendly materials, notes could show details such as the costs and availability.

AO3: Analyse and evaluate knowledge and understanding

Judgements of how their initial ideas meet the needs of the brief will vary depending on the nature of the learner's idea though may include reference to:

- annotated investigations that review:
 - drawings/sketches with annotations to show how these meet the client needs, in terms of a bespoke item, annotations may compare ideas to existing products on the market
 - mood boards with annotations to show how images have been collected and collated to communicate the chosen design movement
 - initial ideas with annotations to show how their ideas have drawn on research findings regarding popular products on the high street that promote the use of eco friendly materials
 - material samples that show experimentation of recycling existing materials to recreate another (for example, the deconstruction of a garment to recreate a new fashion accessory such as a bag).

Note: This is not an exhaustive list and credit should be given for other appropriate research methods and techniques in relation to the requirements of the brief.

Task 1 (b)

1 (b) Interpreting a design brief	
Recommended time:	1 hour
Content areas assessed:	1. Design and production in context 2. Design materials and processes 3. Design brief and production processes
Assessment objectives:	AO1 AO2 AO3
<p>You are required to:</p> <p>Write an email to the client which explains how your three initial ideas may meet the needs of client.</p> <p>Your email should include:</p> <ul style="list-style-type: none">• the design movement you intend to reflect• an outline of all your three initial ideas• a judgement of how your initial ideas meet the needs of the client, informed by your research findings. <p>You may use a computer to type your response.</p> <p>You are <u>not</u> permitted to use this internet for this task.</p> <p style="text-align: right;">[12 marks]</p>	
Evidence	<ul style="list-style-type: none">• An email of your proposal to the client (in an appropriate word-processed document and included in your digital portfolio).

1 (b) Interpreting a design brief	
Marks	Descriptors
10–12	<p>AO3: Makes judgements about the initial ideas that are excellent, highly detailed and highly relevant to the requirements of the brief (including the set design movement).</p> <p>AO2: Applies an excellent understanding of how to interpret a design brief and chosen design movement that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p> <p>AO1: Demonstrates an excellent understanding of how to interpret a design brief and design movement that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO3: Makes judgments for the initial idea that are good, mostly detailed and mostly relevant to the requirements of the brief (including the set design movement).</p> <p>AO2: Applies a good understanding of how to interpret a design brief and design movement that is mostly detailed and mostly relevant to the requirements of the brief.</p> <p>AO1: Demonstrates a good understanding of how to interpret a design brief and design movement that is mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO3: Makes judgments for the initial idea that are reasonable, have some detail and some relevance to the requirements of the brief (including the set design movement), though may be underdeveloped.</p> <p>AO2: Applies a reasonable understanding of how to interpret a design brief and design movement that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p> <p>AO1: Demonstrates a reasonable understanding of how to interpret a design brief and design movement that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p>
1–3	<p>AO3: Makes limited judgments for the initial idea that has minimal detail and little to no relevance to the requirements of the brief (including the set design movement).</p> <p>AO2: Applies a limited understanding of how to interpret a design brief and design movement that has minimal detail and little to no relevance to the requirements of the brief.</p> <p>AO1: Demonstrates a limited understanding of how to interpret a design brief and design movement and has minimal detail and little to no relevance to the requirements of the brief.</p>
0	No rewardable material

Indicative content

Learners may make different decisions when developing their initial ideas.

Credit should be given for how they recall and apply their knowledge and understanding of design briefs and design movements and how they use this to respond to the requirements of the brief. It is not a requirement that the learner formulates a response in their email specifically against each assessment objective (AO) as laid out in the indicative content (IC). The evidence provided by the learner for each AO may be embedded throughout the evidence submitted for the task. Whilst it is likely that the responses will be illustrated by the IC points below, credit should be given for different approaches, providing they meet the key requirements of the task and mark scheme.

AO1: Recall knowledge and show understanding

Interpreting a design brief:

- client needs
- copyright issues
- interpreting key information:
 - product purpose

Arts and Crafts key features:

- emphasis on nature as a starting point for ideas (for example, floral imagery)
- wide range of materials.

or

Post-modern features:

- parody – ridicules convention
- pastiche – unorthodox combinations
- bricolage – reuse – recycle materials.

AO2: Apply knowledge and understanding

Interpreting a design brief:

- (client needs) reference to environmental issues/types of items/eye catching
- (interpreting key information - product purpose) – reference to attracting new customers/eye catching.

Key features of the selected design movement will be applied to the requirements of the brief and inform the initial ideas, for example, a small item of furniture such as a stool, which incorporates a floral design (arts and crafts).

AO3: Analyse and evaluate knowledge and understanding

Judgements of how their initial ideas meet the needs of the brief will vary depending on the nature of the learner's idea though may include reference to:

- (client needs) for example, fit in/be suitable for display in a high street shop window
- (client needs) for example, item has low impact on environment/can be made from sustainable materials
- interpreting key information:
 - resources required including environmental impacts
 - copyright issues, for example, use of images if creating a post-modern design.

Note: This is not an exhaustive list and credit should be given for other appropriate responses to the requirements of the brief.

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Task 2

Developing the designs	
Recommended time:	3 hours
Content areas assessed:	2. Design materials and processes 3. Design brief and production processes 5. Review processes and final solution
Assessment objectives:	AO4 AO5
<p>You are required to:</p> <p>Select one of your initial ideas. Expand and develop your selected idea further by working through design solutions and applying relevant design principles.</p> <p>You should:</p> <ul style="list-style-type: none"> • create a drawing (either hand rendered or computer aided design (CAD)) which includes size/dimension information • identify what materials would be suitable for developing your design • review your drawing and consider your application of design principles and the suitability of the materials you identified. <p>You are permitted to use the internet to support your research, but you must reference the source of any work and/or ideas that are not your own.</p> <p style="text-align: right;">[24 marks]</p>	
Evidence	<ul style="list-style-type: none"> • Evidence to include in your digital portfolio: <ul style="list-style-type: none"> ○ drawings: 2D designs, hand rendered or CAD ○ notes on experimental ideas ○ images of material samples ○ annotations on the drawings ○ a list of references for the sources you have used ○ a copy of your internet browsing history.

The **developing of designs** task assesses learners for both AO4 and AO5. Each AO has an individual mark scheme to reward learners for each distinct AO for the task requirements.

Developing the designs (AO4)	
Marks	Descriptors
10–12	<p>AO4: Excellent and highly proficient demonstration and application of technical production processes to create CAD or hand drawn designs that are comprehensive and highly detailed.</p> <p>AO4: Excellent demonstration and application of the design process (including how to adjust and redesign ideas) that are comprehensive and highly relevant.</p> <p>AO4: Excellent demonstration and application of design principles when developing design ideas, which includes reference to appropriate materials, that are comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO4: Good and mostly proficient demonstration and application of technical production processes to create mostly detailed CAD or hand drawn designs.</p> <p>AO4: Good demonstration and application of the design process (including how to adjust and redesign ideas) that are mostly detailed and mostly relevant.</p> <p>AO4: Good demonstration and application of design principles when developing ideas, which includes reference to appropriate materials, that are mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO4: Reasonable demonstration and application of technical processes, that show some proficiency to create CAD or hand drawn designs that have some detail, though may be underdeveloped.</p> <p>AO4: Reasonable demonstration and application of the design process (including how to adjust and redesign ideas) that have some detail, and some relevance, though may be underdeveloped.</p> <p>AO4: Reasonable demonstration and application of design principles when developing ideas, which includes reference to appropriate materials, that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p>
1–3	<p>AO4: Limited demonstration and application of technical processes, that show limited proficiency, to create CAD or hand drawn designs that have minimal detail.</p> <p>AO4: Limited demonstration and application of the design process (including how to adjust and redesign ideas) that have minimal detail and are mostly irrelevant.</p> <p>AO4: Limited demonstration and application of design principles when developing ideas, which includes reference to appropriate materials, that has minimal detail and are mostly irrelevant to the requirements of the brief.</p>
0	No rewardable material

Indicative content

Credit should be given for their application of technical processes for either digital design software or hand drawn techniques

It is not a requirement that the learner formulates a response in their drawings and annotations specifically against each assessment objective (AO) as laid out in the indicative content (IC). The evidence provided by the learner for each AO may be embedded throughout the evidence submitted for the task. Whilst it is likely that the responses will be illustrated by the IC points below, credit should be given for different approaches, providing they meet the key requirements of the task and mark scheme.

AO4: Analyse and evaluate the demonstration of relevant skills and techniques, and processes.

Learners may choose to apply digital design software (or hand drawn) skills to:

- develop ideas
- conceptual design
- virtual modelling
- techniques (hand drawn):
 - drawing
 - sketching
- output:
 - diagrams
 - working drawings
- qualities:
 - isometric
 - oblique
 - perspective.

Learners will apply a range of stages of the design process, such as:

- applying research findings
- applying principles of good design
- redesigning
- identifying materials (this will be informed by the learner's design ideas):
 - plastics
 - papers, card and board
 - hardwood.

Learners work may apply a range of design principles. When considering placement within the band attention should be given to the effectiveness of the chosen design principles, rather than the range engaged with. Typical examples of design principles will include:

- emphasis, balance, contrast, harmony, repetition, texture, proportion, scale, movement space
- Dieter Rams' 10 Principles of Good Design.

Note: This is not an exhaustive list and credit should be given for other appropriate responses in relation to the requirements of the brief.

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2. Developing the designs (AO5)	
Marks	Descriptors
10–12	<p>AO5: Excellent analysis and evaluation of own technical production processes when creating CAD or hand drawn designs that are comprehensive and highly detailed.</p> <p>AO5: Excellent analysis and evaluation of own design processes when adjusting and redesigning ideas that are comprehensive and highly detailed.</p> <p>AO5: Excellent analysis and evaluation of own design principles used when developing design ideas, which include reference to appropriate materials, that are comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO5: Good analysis and evaluation of own technical processes when creating CAD or hand drawn designs that are mostly detailed and coherent.</p> <p>AO5: Good analysis and evaluation of own design processes when adjusting and redesigning ideas that are mostly detailed and coherent.</p> <p>AO5: Good analysis and evaluation of own design principles when developing own design ideas, which includes reference to appropriate materials, that are mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO5: Reasonable analysis and evaluation of own technical processes when creating a CAD or hand drawn design that have some detail, though may be underdeveloped.</p> <p>AO5: Reasonable analysis and evaluation of own design processes when adjusting and redesigning ideas that have some detail, though may be underdeveloped.</p> <p>AO5: Reasonable analysis and evaluation of own design processes when developing own ideas, which includes reference to appropriate materials, has some detail and some relevance to the brief, though may be underdeveloped.</p>
1–3	<p>AO5: Limited analysis and evaluation of own technical processes when creating a CAD or hand drawn design that has minimal detail and is mostly irrelevant.</p> <p>AO5: Limited analysis and evaluation of own design processes when adjusting and redesigning ideas that has minimal detail and is mostly irrelevant.</p> <p>AO5: Limited analysis and evaluation of own design processes when developing own ideas, which includes reference to appropriate materials, has minimal detail and is mostly irrelevant to the requirements of the brief.</p>
0	No rewardable material

Indicative content

AO5: Analyse and evaluate the demonstration of relevant skills and techniques, and processes

Learners will analyse and evaluate digital design software (or hand drawn) skills, as relevant to their work on areas such as:

- develop ideas
- conceptual design
- virtual modelling
- techniques (hand drawn):
 - drawing
 - sketching
- output:
 - diagrams
 - working drawings
- qualities:
 - isometric
 - oblique.

Learners will analyse and evaluate a range of stages of the design process, such as:

- use of research findings
- principles of good design
- redesigning
- identifying materials (this will be informed by the learner's design ideas):
 - plastics
 - papers, card and board
 - hardwood.

Learners will analyse and evaluate a range design principles, such as:

- emphasis, contrast, harmony, texture, space
- Dieter Rams' 10 Principles of Good Design.

Note: This is not an exhaustive list and credit should be given for other appropriate responses in relation to the requirements of the brief.

Task 3

Plan of production stages for design solution	
Recommended time:	2 hours
Content areas assessed:	2. Design materials and processes 3. Design brief and production processes
Assessment objectives:	AO1 AO2 AO4
You are required to: Referring to your drawing for a design solution, create a plan for the production processes and techniques required to create a prototype of your design solution. This should include a risk assessment of any tools, materials and techniques you plan to use. Note: you will create a prototype as part of the requirements of the next task. The focus of this task is for you to produce a production plan. You are permitted to use the internet to support your research, but you must reference the source of any work and/or ideas that are not your own. The production plan and risk assessment must relate to your own design idea, and you must <u>not</u> use a pre-populated template from the internet. <p style="text-align: right;">[12 marks]</p>	
Evidence	<ul style="list-style-type: none">• Evidence to include in your digital portfolio:<ul style="list-style-type: none">○ production plan○ risk assessment of required materials, tools and techniques○ a list of references for the sources you have used○ a copy of your internet browsing history.

Plan of production stages for design drawing	
Marks	Descriptors
10–12	<p>AO4: Excellent demonstration and application of safe working practices and processes to create a risk assessment (including intended tools, materials and techniques), which is comprehensive and highly proficient.</p> <p>AO2: Applies an excellent understanding of production plan, processes, techniques and safe working practices that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p> <p>AO1: Excellent recall of knowledge and understanding of production plan, processes, techniques and safe working practices that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO4: Good demonstration and application of safe working practices and processes to create a risk assessment (including intended tools, materials and techniques), which is mostly detailed and mostly proficient.</p> <p>AO2: Applies a good understanding of production plan, processes, techniques and safe working practices that is mostly detailed and mostly relevant to the requirements of the brief.</p> <p>AO1: Good recall of knowledge and understanding of production plan, processes, techniques and safe working practices that is mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO4: Reasonable demonstration and application of safe working practices and processes to create a risk assessment (including intended tools, materials and techniques), which has some detail and some proficiency, though this may be underdeveloped.</p> <p>AO2: Applies a reasonable understanding of production plan, processes, techniques and safe working practices that shows some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p> <p>AO1: Reasonable recall of knowledge and understanding of production plan, processes, techniques and safe working practices that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p>
1–3	<p>AO4: Limited understanding and application of safe working practices and processes to create a risk assessment (including intended tools, materials and techniques), which has minimal detail and limited proficiency.</p> <p>AO2: Applies a limited understanding of production plan, processes, techniques and safe working practices that has minimal detail and is mostly irrelevant to the requirements of the brief.</p> <p>AO1: Limited recall of knowledge and understanding of production plan, processes, techniques and safe working practices that has minimal detail and minimal relevance to the requirements of the brief and is inconsistent.</p>
0	No rewardable material

Indicative content

AO1: Recall knowledge and show understanding

Learners may recall a range of requirements for an action plan, such as:

- production stages:
 - sourcing materials and equipment
 - selection of tools and equipment
 - production techniques and processes to be used
 - testing
 - quality assurance
 - contingency.

Processes and techniques recalled may include:

- production processes:
 - using the design proposal to plan production processes
 - source materials
 - testing
 - quality control:
 - random sampling
 - visual
 - tolerances
 - quality assurance:
 - responding to defects
 - inspection procedures
 - materials:
 - buying
 - testing
 - checking
- production techniques:
 - cutting, joining and construction techniques
 - forming shape techniques
 - tools and equipment used for production techniques.

AO2: Apply knowledge and understanding

Learner's application of knowledge and understanding of the production stages, processes and techniques in their action plan will be informed by their response to the brief in terms of their design solution. The knowledge and understanding recalled should be applied to their own design solution in terms of planning how they are going to create a prototype. Examples of the knowledge listed for AO1 should be applied to their own design and production plan, though typical responses may include:

- material required to realise prototype of design solution (for example, wood):
 - (wood) sander, jigsaw and other appropriate tools need
 - (wood) other resources: wax, varnish, pain
 - (wood) production techniques: cutting, joining

- testing: strength, suitability for design, environmental impact.

AO4: Demonstrate and apply relevant technical skills, techniques, and processes

Learners may include a range of information on the risk assessment as it will be informed and shaped by their response to the brief. Typical responses should include an analysis of the risks that are posed by their creative choices and then demonstrated in their risk assessment, including references to:

- risk assessment:
 - hazards: something that can cause harm
 - risks: the likelihood that the hazard will cause harm
 - control measures: actions, activities and/or equipment used or taken to prevent, eliminate or reduce the risk of a hazard occurring
 - personal protective equipment (PPE)
- health and safety legislation:
 - the Management of Health and Safety at Work Regulations 1999
- PPE at work:
 - eyes:
 - safety goggles
 - ears:
 - ear plugs
 - head and face:
 - face shield
 - face mask
 - safety helmet
 - hands, arms and feet:
 - protective gloves
 - leather gauntlets
 - steel toe-capped boots
 - lungs:
 - respiratory filtered system
 - whole body:
 - disposable overalls
 - boiler suit
 - apron.

Note: This is not an exhaustive list and credit should be given for other appropriate responses in relation to the requirements of the brief.

Task 4

Developing and reviewing a prototype	
Recommended time:	5 hours
Content areas assessed:	1. Design and production in context 3. Design brief and production processes 5. Review processes and final solution
Assessment objectives:	AO4 AO5
<p>You are required to:</p> <p>Using your design drawing and action plan and develop your design solution by creating:</p> <ul style="list-style-type: none"> • a prototype of your design (either actual size or scaled). <p>As you create your prototype, you should gather evidence of your application of production processes and techniques. Your annotations should explain what you were doing (and why) at that point in the design process. You should take further images of your completed prototype and provide evaluative annotations.</p> <p>You should also provide a formative review of the design production process. This may include how you redesigned your prototype throughout the process.</p> <p>It is acceptable for you to ask someone else to take the pictures for you (such as another member of the class or tutor) as long as the annotations are only added by yourself.</p> <p>You may use a computer to add evidence to your digital portfolio.</p> <p>You are <u>not</u> permitted to use the internet for this task.</p> <p style="text-align: right;">[24 marks]</p>	
Evidence	<ul style="list-style-type: none"> • Evidence of your research to include in your digital portfolio: <ul style="list-style-type: none"> ○ annotated images of production techniques applied when creating the prototype ○ annotated images of your prototype ○ a written/word processed formative review of your production processes and techniques.

The **developing and reviewing a prototype** task assesses learners for both AO4 and AO5.

Each AO has an individual mark scheme to reward learners for each distinct AO for the task requirements.

Developing and reviewing a prototype (AO4)	
Marks	Descriptors
10–12	<p>AO4: Excellent and highly proficient demonstration and application of technical production processes (including redesigning, where appropriate) to create a prototype that is comprehensive and highly detailed.</p> <p>AO4: Excellent demonstration and application of design principles when developing create a prototype that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO4: Good and mostly proficient demonstration and application of technical production processes (including redesigning, where appropriate) to create a prototype samples that is mostly detailed and coherent.</p> <p>AO4: Good demonstration and application of design principles when developing a prototype, where appropriate, that is mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO4: Reasonable demonstration and application of technical production processes (including redesigning, where appropriate), that show some proficiency, to create a prototype that has some detail, though may be underdeveloped.</p> <p>AO4: Reasonable demonstration and application of design principles when developing a prototype that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p>
1–3	<p>AO4: Limited demonstration and application of technical production processes (including redesigning, where appropriate), that show limited proficiency to create a prototype that has minimal detail.</p> <p>AO4: Limited demonstration and application of design principles when developing a prototype that has minimal detail and are mostly irrelevant to the requirements of the brief.</p>
0	No rewardable material

Indicative content

AO4: Demonstrate and apply relevant technical skills, techniques, and processes

Learners may choose to apply production process techniques, such as:

- cutting, joining and construction techniques
- forming shape techniques
- tools and equipment used for production techniques
- surface treatments and finishing techniques.

Learners may apply a range of stages of the design process, such as:

- applying research findings
- applying principles of good design
- testing
- redesigning.

Learners may apply a range design principles, such as:

- emphasis, contrast, harmony, texture, space
- Dieter Rams' 10 Principles of Good Design.

Note: This is not an exhaustive list and credit should be given for other appropriate responses in relation to the requirements of the brief.

Developing and reviewing a prototype (AO5)	
Marks	Descriptors
10–12	<p>AO5: Excellent analysis and evaluation of own technical production processes (including redesigning, where appropriate) when creating a prototype that is comprehensive and highly detailed.</p> <p>AO5: Excellent analysis and evaluation of own design principles used when developing a prototype that is comprehensive, highly detailed and highly relevant to the requirements of the brief.</p>
7–9	<p>AO5: Good analysis and evaluation of own technical production processes (including redesigning, where appropriate) when creating a prototype that is mostly detailed and coherent.</p> <p>AO5: Good analysis and evaluation of own design principles used when developing a prototype that is mostly detailed and mostly relevant to the requirements of the brief.</p>
4–6	<p>AO5: Reasonable analysis and evaluation of own technical production processes (including redesigning, where appropriate) when creating a prototype that has some detail, though may be underdeveloped.</p> <p>AO5: Reasonable analysis and evaluation of own design principles used when developing a prototype that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p>
1–3	<p>AO5: Limited analysis and evaluation of own technical production processes (including redesigning, where appropriate) when creating a prototype that has minimal detail.</p> <p>AO5: Limited analysis and evaluation of own design principles used when developing a prototype that has minimal detail and is mostly irrelevant to the requirements of the brief.</p>
0	No rewardable material

Indicative content

AO5: Analyse and evaluate the demonstration of relevant skills and techniques, and processes.

Learners may choose to analyse and evaluate process techniques, such as:

- cutting, joining and construction techniques
- forming shape techniques
- tools and equipment used for production techniques
- surface treatments and finishing techniques.

Learners may analyse and evaluate a range of stages of the design process, that informed or impacted upon their application of practical skills such as:

- applying research findings
- applying principles of good design
- testing
- redesigning.

Learners may choose to analyse and evaluate a range design principles, that informed or impacted upon their application of practical skills such as:

- emphasis, contrast, harmony, texture, space
- Dieter Rams' 10 Principles of Good Design.

Note: This is not an exhaustive list and credit should be given for other appropriate responses in relation to the requirements of the brief.

Task 5

Reviewing the design project	
Recommended time:	2 hours
Content areas assessed:	4. Presentation of design solution 5. Review processes and final solution 6. Working in the design production industries
Assessment objectives:	AO3 AO4 AO5
<p>You are required to:</p> <p>Create a digital presentation for you line manager which includes:</p> <ul style="list-style-type: none"> • a review of the design production industry skills you have used throughout the project • a summative review of your final design solution. <p>Note: You will not be presenting your digital presentation, but you are assessed on the quality of your digital presentation slides. Your slides can include any of the evidence you have gathered whilst completing digital portfolio.</p> <p>Finally, you must also ensure that your digital portfolio for the whole project is fully complete.</p> <p>You may use a computer to create your slides and add evidence to your digital portfolio.</p> <p>You are <u>not</u> permitted to use this internet for this task.</p> <p style="text-align: right;">[12 marks]</p>	
Evidence	<ul style="list-style-type: none"> • A digital presentation in appropriate file format. • Completed digital portfolio in appropriate file format.

Reviewing the design project	
Marks	Descriptors
10–12	<p>AO5: Excellent analysis and evaluation of own design production industry skills used throughout the design project that is comprehensive and highly detailed.</p> <p>AO4: Excellent demonstration and application of methods of presentation for a design solution that is comprehensive and highly detailed and highly relevant to the requirements of the brief.</p> <p>AO3: Excellent analysis and evaluation of the final design solution that is comprehensive and highly detailed supported by excellent and highly relevant links to design principles, design process and meeting the needs of the brief.</p>
7–9	<p>AO5: Good analysis and evaluation of own design production industry skills used throughout the design project that are mostly detailed and coherent.</p> <p>AO4: Good demonstration and application of methods of presentation for a design solution that is mostly detailed and mostly relevant to the requirements of the brief.</p> <p>AO3: Good analysis and evaluation of the final design solution that is mostly detailed supported by good and mostly relevant links to design principles, design process and meeting the needs of the brief.</p>
4–6	<p>AO5: Reasonable analysis and evaluation of own design production industry skills used throughout the design project that has some detail, though may be underdeveloped.</p> <p>AO4: Reasonable demonstration and application of methods of presentation for a design solution that has some detail and some relevance to the requirements of the brief, though may be underdeveloped.</p> <p>AO3: Reasonable analysis and evaluation of the final design solution that has some detail supported by reasonable links, that have some relevance, to design principles, design process and meeting the needs of the brief, though may be underdeveloped.</p>
1–3	<p>AO5: Limited analysis and evaluation of own design production industry skills used throughout the design project that has minimal detail.</p> <p>AO4: Limited demonstration and application of methods of presentation for a design solution that has minimal detail and minimal relevance to the requirements of the brief.</p> <p>AO3: Limited analysis and evaluation of the final design solution that has minimal detail supported by limited and minimal links to design principles, design process and meeting the needs of the brief.</p>
0	No rewardable material

Indicative content

AO5: Analyse and evaluate the demonstration of relevant skills and techniques, and processes.

Learners may comment on how they used design production industry skills throughout their project in a range of ways. They may also link these skills with examples from their own project and make additional links to other content areas. This is acceptable as long as the focus of the evaluation is the skill being discussed. Key skills evaluated may include:

- self-reflection
- resilience
- focus
- communication
- motivation
- thinking creatively:
 - invention
 - innovation
 - process.

AO4: Demonstrate and apply relevant technical skills, techniques and processes.

Learners' design solution presentations will be submitted electronically. They may wish to add accompanying audio, images and video to enhance their presentation. Typical skills demonstrated may include:

- presentation skills:
 - use of presentation software (for example, to add audio, image, effects)
 - individual presentation preparation (for example, slides are creatively prepared, not overly reliant on text, convey information clearly)
- clear purpose of presentation
 - review
 - evaluate.

AO3: Analyse and evaluate knowledge and understanding.

Learners may review how their design solution meets the requirements of the brief in a range of ways, though these may include:

- design principles (for example, aesthetics)
- design process (for example, effectiveness of redesigning)
- meeting the needs of the brief:
 - how challenges faced were resolved
 - future developments/modifications
- the extent to which the solution reflected the chosen design movement (as stated in the brief):
 - arts and crafts movement:
 - key factors:
 - reaction to industrialisation

- aimed to improve the quality of design
- often handmade, hand crafted items which were labour intensive and expensive
- emphasis on nature as a starting point for ideas floral imagery
- wide range of materials:
 - wood
 - metal
 - textiles, especially printing and embroidery
 - glass
 - ceramics
- post-modernism
 - key factors:
 - a broad movement
 - celebrates the unconventional
 - links to retro, techno punk and grunge
 - functional products
 - key features:
 - parody
 - pastiche
 - bricolage.

Note: This is not an exhaustive list and credit should be given for other appropriate responses in relation to the requirements of the brief.

This is the end of the internal synoptic project

Mark Scheme

The purpose of this mark scheme is to give you:

- examples and criteria of the types of response expected from a student
- information on how individual marks are to be awarded
- the allocated assessment objective(s) and total marks for each question.

Marking guidelines

General guidelines

You must apply the following marking guidelines to all marking undertaken. This is to ensure fairness to all learners, who must receive the same treatment. You must mark the first student in exactly the same way as you mark the last.

- The mark scheme must be referred to throughout the marking period and applied consistently, do not change your approach to marking once you have been standardised.
- Reward learners positively, giving credit for what they have shown, rather than what they might have omitted.
- Utilise the whole mark range and always award full marks when the response merits them.
- Be prepared to award zero marks if the learner's response has no creditworthy material.
- Do not credit irrelevant material that does not answer the question, no matter how impressive the response might be.
- If you are in any doubt about the application of the mark scheme, you must consult with your centres internal quality assurer.

Guidelines for using extended response marking grids

Extended response mark grids have been designed to assess learners' work holistically. They consist of levels-based descriptors and indicative content.

Levels-based descriptors.

Each level is made up of several descriptors for across the AO range – AO1 to AO5, which when combined provide the quality of response that a student needs to demonstrate. Each level-based descriptor is worth varying marks.

The grids are broken down into levels, with each level having an associated descriptor indicating the performance at that level. You should determine the level before determining the mark.

Indicative content reflects content-related points that a student may make but is not an exhaustive list, nor is it a model answer. Learners may make all, some or none of the points included in the indicative content, as its purpose is as a guide for the relevance and expectation of the responses. Learners must be credited for any other appropriate response.

Application of extended response marking grids

When determining a level, you should use a bottom-up approach. If the response meets all the descriptors in the lowest level, you should move to the next one, and so on, until the response matches the level descriptor. Remember to look at the overall quality of the response and reward learners positively, rather than focussing on small omissions. If the response covers aspects at different levels, you should use a best-fit approach at this stage and use the available marks within the level to credit the response appropriately.

When determining a mark, your decision should be based on the quality of the response in relation to the descriptors.

DRAFT