Unit 102: Extending Non-resistant Materials

Unit code: H/502/5752

QCF Level 3: BTEC National

Credit value: 10

Guided learning hours: 60

Aim and purpose

The purpose of this unit is for learners to extend and apply their knowledge and understanding of the properties and working characteristics of non-resistant materials. This will be achieved through developing skills in designing, producing and evaluating finished outcomes.

Unit introduction

This unit will give learners the opportunity to extend and apply their knowledge and understanding of the properties and characteristics of non-resistant materials explored in *Unit 69: Exploring Non-resistant Materials*, to designing and producing finished outcomes. Learners may design for and make works using non-resistant materials singly or in combinations.

Successful 3D work is dependent on factors which include visually interesting and innovative designs and ideas, confident and sensitive manipulation of materials, techniques and processes, skilful making and high quality finishes. Professional practitioners devote time to developing personal ideas, therefore designing is at the core of successful making, although further ideas may subsequently occur through the manipulation of materials themselves.

Through a programme of practical projects, learners will practise and develop skills across all activities related to designing and making. Learners will be set design briefs to research and record from different sources as inspiration for potential ideas. They will select and produce designs for completed artefacts and broaden their knowledge of works produced in non-resistant materials. They will apply their understanding to select non-resistant materials, techniques and processes, extend making skills and produce finished artefacts. Learners will also use analysis and evaluation techniques throughout the creative process, to promote flexibility and understanding that visual decisions are possible at any stage. Through articulating the 'journey' of the project to the group, learners will have the opportunity to recognise the validity of their own and others' individual solutions and to broaden their knowledge of artefacts produced in non-resistant materials. It is suggested the briefs that are given to learners develop these areas stage by stage over an extended period of months.

This unit is demanding in terms of health and safety regulations, with learners potentially active in a number of different workshop environments. Learners need to have a full and proper induction in the use of machinery procedures and health and safety guidance for all areas.

Learning outcomes

On completion of this unit a learner should:

1 Be able to create designs for artefacts in non-resistant materials in response to set briefs

2 Be able to use non-resistant materials

3 Be able to produce finished artefacts that meet design briefs

4 Understand the process and finished products.

Unit content

1 Be able to create designs for artefacts in non-resistant materials in response to set briefs

Create designs: clarify the brief eg questioning, group discussions; research information eg primary, secondary, contextual sources, museum collections, visits, books; developing ideas eg speculative drawings, models, maquettes, CAD; pursuing alternatives eg combining elements, investigating variations, professionals' developmental works and methods; modify eg adjust, refine, refer to own results of investigations

2 Be able to use non-resistant materials

Selecting and using non-resistant materials and techniques: identify; alternatives; use eg form, shape, construct, finish; resources; facilities availability; tools (hand, machine); qualities eg malleability, flexibility, strength, weakness, surface textures, finishes, firing temperatures, aesthetic considerations

Health and safety: Health and Safety Act 1974, elimination of risk to self and others; understand risk assessments; follow COSHH guidance on materials and workshop practice; safe use of tools, machinery and equipment

3 Be able to produce finished artefacts that meet design briefs

Preparing and planning: eg scale, finishes, life-size working drawings, pattern making, scale models, prototypes, measuring, cutting, making armatures, making moulds; preparing eg hardening, softening, wedging, pugging, pulping, mixing, mould-making, constructing armatures, assembling materials, required tools, equipment, adhesives; referring to trials; systematic eg sequential, scheduling, testing, time management

Making and finishing processes: forming eg shaping, modelling, pinching, coiling, throwing, casting; constructing eg assembling, slabbing, cutting, joining, gluing, interlocking, slotting, stitching; finishing eg surface treatments, carving, burnishing, painting, scratching, gilding, glazing, varnishing

Storing, drying and firing: eg wrapping ongoing work, controlled drying, selecting appropriate temperatures

4 Understand the process and finished products

Evaluate the process: review research eg visual interest, potential, design ideas, relevance, contextual references, extend possibilities; review designs eg formal elements (shape, form, line, pattern, colour, proportion, balance), interrelationships; choice eg materials, process, forming, construction techniques, surface treatments, design qualities; record eg modifications, construction, finishing, photograph

Evaluate finished artefacts: eg technical competence, attention to detail, quality of finish, function, weight, fitness for purpose; aesthetics; issues eg problems, solutions, strengths, weaknesses; present eg findings, appropriate formats; present to others eg peers, tutors, clients, customers, professionals; format eg on-screen, presentation, group critique, oral presentation, written evaluation, tutorials

Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	**To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:**	**To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:**
P1 produce research in response to set briefs [IE, CT, RL]	**M1** develop diverse ideas from considered research	**D1** use potential of research material to pursue ideas comprehensively
P2 develop ideas from research [IE, CT, RL]	**M2** use non-resistant materials and techniques selected from trials and records, effectively	**D2** use non-resistant materials and techniques fluently
P3 use non-resistant materials [IE, RL]	**M3** produce competent outcomes that meet design briefs	**D3** produce exciting outcomes that meet design briefs
P4 produce finished artefacts that meet design briefs [IE, CT, SM, TW]	**M4** explain the evolution of ideas and finished outcomes.	**D4** use technical understanding and visual analysis to perceptively evaluate progress of own work.
P5 describe how ideas, materials and techniques were selected. [RL, EP, TW]		

PLTS: This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

Key			
	IE – independent enquirers	RL – reflective learners	SM – self-managers
	CT – creative thinkers	TW – team workers	EP – effective participators

Essential guidance for tutors

Delivery

This unit gives learners the opportunity to apply knowledge and understanding acquired in *Exploring Non-resistant Materials*, where the emphasis is on exploration rather than finished work. The focus for this unit is on designing, planning, producing and completing finished works and developing evaluative skills. For assessment purposes the units are written in order to separate exploration from design development and production processes. As this is an artificial separation, ideally the two units should be taught either in sequence or through an integrated programme. The unit would also be suitable linked with *Design Methods in Art and Design*, *Design Principles in Art and Design* and *Developing and Realising Design Crafts Ideas*.

For individual and creative outcomes, emphasis is on the whole design process from inception to completion. Starting points from which to develop design ideas are crucial.

For learning outcome 1, it is expected that learners will be given a number of project briefs over the course of the unit. In each project, learners will be asked to create a 3D artefact. It is important that learners work from visual references they have produced, ideally from direct observation, and use this to generate ideas. When selecting sources, learners should be taught to discriminate for visual interest as well as by content and to consider potential in terms of formal elements, particularly shapes, lines, textures and patterns. If secondary sources are used, these should be purposefully selected, adequately detailed, sized and in focus to provide useful visual information and subsequently filtered through personal recordings and interpretations, rather than used directly.

Tutors will, through discussion and suggestions, support learners to propose a number of ideas and designs for the individual set briefs. At this stage of the project learners should not have a fixed idea of what the final outcome will be. Learners should be shown ways of developing design ideas for 3D works, by selecting and extracting elements from their research work and exploring alternatives. For example, they could select shapes which could then be stretched, compressed, inverted, angled, repeated and rebalanced by changing proportions, so the final design retains the essence of the original rather than being a replica, or translate textures, colours and finishes into different materials and processes. A range of 2D and 3D techniques for visualising design ideas should be demonstrated, to enable learners develop individual means of communication, such as speculative drawings and diagrams, models, maquettes, photocopies, Photoshop. Learners should be made aware of the work of contemporary practitioners and the context in which their work is developing. Learners should be taught the importance of reviewing their ideas for visual and practical considerations before refining further prior to making. Tutors will direct learners to their earlier explorations for their potential application.

Learning outcome 2 involves learners developing their responses into practical work. Tutors may need to provide further demonstrations and/or practical workshops that consolidate or extend learners' current knowledge of techniques. Materials and techniques will need to be prepared appropriately and used safely. Tutors should encourage learners to refer to their investigations about materials and techniques, evaluate them and select the most appropriate. Ideas relating to working practices and choices of materials, techniques and processes should be evaluated and recorded by learners.

Learning outcome 3 focuses on the making processes and production of finished artefacts, therefore learning outcomes 2 and 3 are interlinked. Tutors will need to demonstrate how to use appropriate technology, techniques and processes with non-resistant materials and how to adapt core processes to their individual designs, correct mistakes and control manipulation of non-resistant materials. They should work under supervision and observation to ensure regulations and procedures are followed correctly, with regular discussions about practical, functional or aesthetic considerations. The work should demonstrate a level of making skills that result in successful completion of works. To ensure successful outcomes, selected designs should be carefully planned through life-size drawings, scale models, patterns, templates and CAD as appropriate prior to making. Because non-resistant materials have properties of malleability, there is some flexibility at different stages to change or modify outcomes, which may be utilised when discussing work in progress. Later the learner will need to plan a working schedule, and prepare materials. Because of the nature of the work and processes involved, it is essential that health and safety requirements are observed. It is more beneficial for learners to acquire a limited range of making skills at one time, therefore a range could be covered across several projects.

For learning outcome 4 learners should review and evaluate their ideas throughout the developing stages of their work, as an ongoing activity, not just the end results. Pause for reflection should be timetabled into working sessions. Tutors will need to guide learners to review their progress at tutorials as they move through the unit. Tutors should ensure that recording of all the stages of the work and production processes takes place, for example in a reflective journal or workbook. Learners should be encouraged to keep notes, photographs, models and mock-up samples in order to be able to make a comprehensive evaluation at the end of the work. Learners will need to be taught how to evaluate the processes of making and the finished artefact in terms of technical and visual considerations, the successes and what could have been done differently. This will allow learners to present a full account of their work for assessment. It must be explained to learners that practitioners evaluate their work regularly and use that knowledge in subsequent works. Talks by visiting practitioners could be utilised. Learners should be given opportunities to present their work in different formats, through oral, design sheets and digital presentations.

Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan demonstrates one way in planning the delivery and assessment of this unit.

Topic and suggested assignments and activities
Unit introduction.
Assignment 1: Paper People Introduction to brief: Make a life size human figure to install in the foyer for the production of 'Cabaret'. Research: view the film 'Cabaret', research pre WW2 German art, 1930s fashion and textiles and contemporary paper figures. Figure drawings: structure, proportion, different viewpoints of seated and standing positions. Select 1 and from research of 1930s fashion, textiles and paintings, design hairstyles, make up, accessories for the figure. Enlarge figure to life size on paper. Using this master drawing, construct a self supporting card and paper structure of the figure. Document photographically stages of construction and structural problem solving. Using tissue paper only, 'dress' the figure. Record all stages of research, designs, production, processes, materials, techniques used, health and safety considerations in sketchbook. Select key information and produce A1 display sheet. Install completed figure in foyer with design sheet. For assessment at a group critique in the foyer, prepare presentation of the whole journey of the project with all evidence present.
Assignment 2: Expression of Emotion Introduction: use the vehicle of the human head and the visual language of shape, form, line, texture and colour to convey an emotion. Research human emotions and how these could be conveyed with facial expressions eg happiness, smugness, pride, aggression, anxiety, fragility, love. Take own photographs and collect visual examples from media and from art history. Analyse how emotions are conveyed. Using callipers and working from a mirror, measure own face and draw life size self portrait. Working in pairs and using callipers, produce, life size measured drawings of each other's heads, from front, back and side views. Collect examples of 3D heads, historical and contemporary eg Rodin, Epstein, Giacometti, Frink, Bourgeois. Analyse form, texture, materials. Redraw head, using different media and approaches eg ink, charcoal, collage, experiment with textures and finishes using different expressions to convey emotions. Investigate different textures and approaches with different materials eg clay, plaster, fibres, papier mache, wire. Select materials most suited to expression of selected emotion. Consider scale. Construct appropriate armature eg wood, chicken wire, card. Continually using drawings, mirror, callipers as necessary, referring to proportions, shapes and features of own head, build up form in selected materials. Model details, but not necessarily self portrait. Photograph all stages digitally and produce PowerPoint presentation of whole journey of the project. For assessment at a group critique present PowerPoint, completed outcome and evaluation.
Unit review and assessment.

Assessment

The emphasis in this unit is on designing and making a finished product. It is therefore essential that learners generate evidence of the whole process from inception to realisation. This can be in the form of written records, drawings, photographs, models, samples or any suitable form of recording work in progress, as well as the completed outcomes. It is important for tutors to keep a record of observations relating to particular circumstances, which may have arisen during the process. The combination of all records, trials and evaluations, along with the finished work, should clearly demonstrate learning. A group critique when learners have the opportunity to present and articulate the whole 'journey' of the project is particularly relevant to this unit.

For P1, learners will be expected to observe and record from sources. Visual recording will be basic, with over-reliance on secondary sources.

For P2, learners must develop ideas from research and be able to select an idea to take to completion. Their ideas will partially pursue alternative versions, but these will be limited.

For P3 Learners will select non-resistant materials, techniques and processes under tutor-led supervision and prepare these prior to making. They must use materials, tools and equipment appropriately and safely to produce completed artefacts, but outcomes may be uneven, with limited attention to detail and finish.

For P4, learners must plan their making tasks and follow correct sequences. Practical skills will be demonstrated in a technically successful outcome, using some control, although results may be uneven, with little refinement or attention to detail and finish.

For P5, learners need to present all the work they have produced and describe in oral or written form how ideas, materials and techniques were selected to achieve the outcome. They will also evaluate the finished work, what was successful and where improvements could have been made. Use of vocabulary will be basic and evaluations will be limited to technical considerations. The whole working process must be documented in a sketchbook or similar by a combination of drawings, photographs of works in progress, models, maquettes, notes and at least one contextual example to draw links with own work. Selection of contextual examples will be limited and the links obvious.

For M1, learners will use various media when recording and extracting visual information. They will pursue diverse directions for ideas, using relevant contextual examples as an aid to extending possibilities. From this range, they will make considered selections to develop individual responses and to refine the chosen idea prior to making.

M2 requires learners to refer to their recordings about the properties of resistant materials and their related techniques, to select the most appropriate to work with. They will use materials and techniques effectively with regard for their possibilities and limitations for chosen intentions.

For M3, final outcomes will be produced competently with a sense of personal involvement, considering technical and visual matters from a range of possibilities. There will be consistency across finished works, with attention to detail and finish. Learners will organise their tasks, anticipate requirements and prepare for them. M2 and M3 are interlinked; the way learners select and use materials and processes will impact on the quality of finished outcomes.

For M4, learners must explain what technical and visual decisions were considered for the evolution of their design ideas and the finished outcomes. They will identify successes and failures in relation to the intended design and finished work, using appropriate vocabulary. They will include examples of practitioners' works, which make links with their own and explain the connection.

For D1, learners must demonstrate a high level of visual enquiry by employing a variety of approaches and processes for visual recording and generating ideas, from sources carefully selected for their potential. Visual elements will be extracted from research to pursue comprehensive investigations of variations of ideas. Unexpected or accidental results or lateral connections will be utilised for their potential. They will use contextual examples as inspiration to pursue alternative solutions. Designs will be ambitious and challenging while taking constraints into account.

For D2, learners will make judgements about risks and anticipate problems and solutions when selecting materials, techniques or processes. Learners must use materials and techniques fluently, with sensitivity to their intrinsic properties, demonstrate dexterity and sustained control. They may use materials and techniques innovatively, based on technical understanding and skills gained through analysis of explorations. They will recognise and pursue the potential from unexpected results.

For D3, learners will produce exciting outcomes. They may seek unusual links or connections, through striking use of materials or sophisticated designs.

For D4, learners will define how technical understanding and perceptive visual analysis informed creative decisions at all stages. They will explain and justify their selections of sources, research, materials, techniques, production processes and their aesthetic decisions. Learners will articulate their work fluently using vocational terminology confidently. The evaluations will be informed by references to contextual links, which may be unexpected and connected by visual rather than practical considerations.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the assessment and grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P1, P2, P3, P4, P5 M1, M2, M3, M4 D1, D2, D3, D4	**Assignment 1:** Paper People	Artist commissioned to produce sculpture for theatre foyer.	Presentation at group critique in front of exhibited works and design sheets: 1 Present portfolio of: a) figure drawings and enlargements b) sketchbook with: research about subject, surfaces and materials, technical notes., samples, planning and preparatory works for armature and surface detail, photographic records of works-in-progress showing visual decisions: changes, adjustments and refinements c) design sheet. 2 Finished outcomes. 3 Written evaluation of selections and outcomes in relation to brief. 4 Oral description. 5 Tutor written feedback comments about: • quality of observation drawings and accuracy of measurements, observations of practical work visual and technical successes, quality of evaluations and areas for improvement.

Criteria covered	Assignment title	Scenario	Assessment method
P1, P2, P3, P4, P5 M1, M2, M3, M4 D1, D2, D3, D4	**Assignment 2:** Expression of Emotion	Artist develops and produces self-initiated work.	1 PowerPoint and oral presentation at group critique to include: • visual and contextual research, development, selection and refinement of ideas, research of others' works, records of construction. Finished outcome. 2 Written evaluation of outcomes. 3 Tutor written feedback comments about: • strengths in ideas development, observations of practical work visual and technical successes, quality of evaluations and areas for improvement.

Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Art and Design sector suite. This unit has particular links with the following units in the BTEC Art and Design suite:

Level 1	Level 2	Level 3
Introduction to 3D Design Crafts	3D Visual Communication	Design Methods in Art and Design
Working to a 3D Brief	Working with 3D Design Crafts Briefs	Design Principles in Art and Design
		Developing and Realising Design Craft Ideas
		Exploring Non-resistant Materials
		Extending Resistant Materials

Essential resources

Research resources include access to technical resources, a library, journals and IT facilities with internet access. For visual recording, 2D and 3D materials and appropriate studio spaces. Workshop facilities equipped to the appropriate standards for this level of specialist work are essential. For all the areas of working, the relevant health and safety practice should be in place, such as extraction in workshops for wood, plastics and metal and plaster. The areas for working should have appropriate storage for work in progress and finished work.

Employer engagement and vocational contexts

Centres should develop links with practising artists, craftspeople and designers, to deliver assignments to learners or to provide work experience.

Links with employers are essential to the delivery of the programme for work experience and future employment.

Vocational learning support resources:

- Learning and Skills Network – www.vocationallearning.org.uk

Business and finance advice:

- local and regional Business Link – www.businesslink.gov.uk

Assignments should be vocationally relevant; centres should consider the delivery of 'live projects' for example to support the vocational content of the unit and programme.

Indicative reading for learners

Textbooks

Anderson S and Cohen D – *A Visual Language* (A&C Black 2006) ISBN 978-0713667738

Books M – *Complete Contemporary Craft: Embellishments* (Murdoch Books, 2008) ISBN 978-1741962253

Blandino B – *The Figure in Fired Clay* (A&C Black, 2001) ISBN 978-0713652055

Bosworth J – *Ceramics and Mixed Media* (A&C Black, 2006) ISBN 978-0713667714

Bova J – *500 Animals in Clay: Contemporary Expressions of the Animal Form* (Sterling, 2007) ISBN 978-1579907570

Britton N – *Out of the Ordinary Spectacular Crafts* (V&A Publications, 2007) ISBN 978-1851775248

Butcher M – *Contemporary International Basket Making* (Merrell Publishers Ltd, 1999) ISBN 978-1858940786

Ceruti M – *The Paper Sculpture Book* (Independent Curators Inc, 2003) ISBN 978-0916365691

European Ceramic Work Centre – *The Ceramic Process A Manual and Source of Inspiration for Ceramic Art and Design* (European Ceramic Work Centre, 2005) ISBN 978-0713667684

Flynn M – *Ceramic Figures A Directory of Artists* (A&C Black, 2002) ISBN 978-0713651171

French N – *Potter's Directory of Shape and Form* (A&C Black, 1998) ISBN 978-0713648799

Genders C – *Pattern, Colour & Form, Creatqive Approaches by Artists* (A&C Black, 2009) ISBN 978-0713678093

Genders C – *Sources of Inspiration* (A&C Black, 2004) ISBN 97-80713670981

Gunter V A – *500 Figures in Clay: Ceramic Artists Celebrate the Humane Form* (Lark, 2004) ISBN 978-1579905477

Hall J – *Papier Mache Art and Design* (2TAP, 2008) ISBN 978-0956057105

Hemachandra R – *500 Baskets: A Celebration of the Basketmaker's Art* (Lark, 2006) ISBN 978-1579907310

Hessenberg K – *Ceramics for Gardens and Landscape* (A&C Black, 2000) ISBN 978-0713647044

Hung S and Magliaro J – *By Hand: The Use of Craft in Contemporary Art* (Princeton Architectural Press, 2006) ISBN 978-1568986104

MacDonald J – *Jewellery from Recycled Materials* (A&C Black, 2009) ISBN 9780713682755

Milner A – *Inspirational Objects* (A&C Black, 2005) ISBN 978-0713668193

Osterman M – *The Ceramic Narrative* (A&C Black, 2006) ISBN 978-0713668834

Perrella L – *Artists' Journals and Sketchbooks: Exploring and creating personal pages* (Rockport Publishers Inc, 2004) ISBN 978-1592530199

Racz I – *Contemporary Crafts* (BERG, 2008) ISBN 978-1845203092

Rush P – *An Introduction to Modelling Wire and Paper Figures* (James Hockey Gallery, 1999) ISBN 978-1899817047

Scott J – *Textile Perspectives in Mixed-media Sculpture* (The Crowood Press Ltd., 2003) ISBN 978-1861265784

Scott P – *Painted Clay Graphic Arts and Ceramic Surface* (A&C Black, 2001) ISBN 978-0713647549

Schwartz J – *Confrontational Ceramics* (A&C Black, 2008) ISBN 978-0713676556

Suusmarez de M – *Basic Design: Dynamics of Visual Form* (A&C Black, 2007) ISBN 978-0713683660

Woodhead S – *The Teapot Book* (A&C Black, 2005) ISBN 978-0713660166

Journals

American Craft – American Craft Council

Blueprint – Wilmington Media

Crafts – Crafts Council

Crafts International – Craft Arts International Pty Ltd.

Creative Review – Centaur Communications Ltd

Design Week – Centaur Communications Ltd

New Design – DWB Associates

Websites

www.craftscouncil.org.uk	Crafts Council
www.yourcreativefuture.org/crafts	Creative Futures
www.design-council.org.uk	Design Council

Delivery of personal, learning and thinking skills

The table below identifies the opportunities for personal, learning and thinking skills (PLTS) that have been included within the pass assessment criteria of this unit.

Skill	When learners are ...
Independent enquirers	selecting visual and contextual sources for research selecting practitioners' works which make links with own work
Creative thinkers	generating ideas from research and explore possibilities connecting their own and others' ideas to move the work forward asking questions and consulting to extend their own thinking
Reflective learners	selecting ideas, materials and techniques from possibilities considering functional and aesthetic characteristics, technical qualities, fitness for purpose, visual qualities of outcome, formal elements, strengths and weaknesses and relevance to the brief
Team workers	following health and safety procedures with awareness of risk to self and others
Self-managers	organising themselves by planning work, preparing materials and techniques to produce successful finished outcomes showing commitment and perseverance when problems arise
Effective participators	discussing own and others' works at group critique.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
Independent enquirers	considering how to translate visual and contextual research into own work with materials and techniques available recognising potential in unexpected results
Creative thinkers	using a variety of methods for extracting and generating ideas making connections which are unusual
Reflective learners	evaluating sources, ideas and progress of work communicating their learning
Team workers	helping others practically when working with tools and equipment sharing findings about physical and visual properties of materials and techniques with others
Self-managers	being flexible when constraints arise seeking advise and support when needed taking into account deadlines, times available in workshops and budgetary constraints
Effective participators	being involved in group working on a built environment project.

Functional Skills – Level 2

Skill	When learners are ...
ICT – Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	using PowerPoint, scanning and manipulating images and inserting text, designing pages
Manage information storage to enable efficient retrieval	downloading and storing digital photographs
ICT – Find and select information	
Select and use a variety of sources of information independently for a complex task	identifying and selecting relevant links from broad overarching sites
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	researching and selecting relevant information about the works of others: images of work, technical information and development of ideas
ICT – Develop, present and communicate information	
Bring together information to suit content and purpose	preparing PowerPoint presentation incorporating images and text
Present information in ways that are fit for purpose and audience	presenting PowerPoint presentation which explains the sequential and evolving progression of own work
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	storing identified sources potentially useful for future access
Mathematics	
Identify the situation or problem and the mathematical methods needed to tackle it	planning and making to scale the construction of models or finished works enlarge or reduce scale of images or models working out angles and curves for constructions working out sizes of individual shapes for construction dependent on thickness of materials
Select and apply a range of skills to find solutions	measuring shapes and edges to fit together, straight and curved relating relative sizes of shapes to each other [proportion] scaling up or down from drawings or models using multiplication and division adapting measurements when working with materials of different thicknesses using set square and protractor for working out and cutting to correct angles making templates constructing 3D forms from flat shapes
Use appropriate checking procedures and evaluate their effectiveness at each stage	using templates to check angles, curves, shapes and sizes

Skill	When learners are ...
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	listening: • clarifying brief • following procedures described and demonstrated • discussing ideas and progress of work • participating in a group critique, listening while others make presentations speaking: • describing how decisions were made to a group • contributing to discussion about own and others' works individually and at group critique
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	reading about selected artists' works and extracting relevant information about the development of their ideas and how they use materials and techniques, which is particular to them
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	transcribing research information annotating thoughts about ideas, possibilities, alternative decisions, formal elements, aesthetic qualities, function, processes producing written evaluation of what has been learnt and how they responded to the theme visually and why they made the decisions they did.