Unit Title:	**Concept development**
OCR unit number	3
Level:	2
Credit value:	4
Guided learning hours:	34
Unit reference number	L/503/5854

Unit purpose and aim

This unit will develop the ability of learners' to communicate design ideas through the development of skills and techniques including sketching, concept development, digital image manipulation, photography, presentation skills and Computer Aided Design.

During design concept development, learners will consider the form and function of their products (ergonomics and anthropometrics), the target market, inspiration and existing products that have been identified through research. Learners will also consider manufacturing implications in relation to processes and materials.

Learning Outcomes	Assessment Criteria	Teaching Content
The Learner will:	**The Learner can:**	• Graphical sketching techniques should include: o pencil sketching o isometric o oblique o grid papers o crating o rendering techniques o pencil crayon o marker pen o shading o thick and thin line
1 Be able to communicate design ideas related to a client design brief	1.1 Produce initial design ideas using a range of sketching and graphical techniques	
	1.2 Present initial ideas to a client to gather feedback	• Presentation techniques could include: o graphically hand drawn o digitally manipulated imagery o display board o digital presentation o written or verbal

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Learning Outcomes	Assessment Criteria	Teaching Content
		o commentary • use of annotation and labels • Methods of recording feedback • modifications to design based on client feedback
	1.3 Develop design ideas in response to client feedback 1.4 Produce developed ideas using digital techniques 1.5 Select and use a presentation method to show concepts development	• graphical design development with digital techniques could include: o scanning and image manipulation o Photoshop o CAD • Methods of presentation can include; o PowerPoint presentation o display boards o portfolio o digital slideshow
2 Be able to annotate design ideas	2.1 Annotate concept ideas to clearly identify thought processes including: • key features • materials • functional requirements • areas for further investigation/ development • aesthetics	• Annotation techniques should include: o communication of product key features o materials o function o research findings o client feedback o areas for development o aesthetics

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Learning Outcomes	Assessment Criteria	Teaching Content
3 Be able to present final design idea	3.1 Produce a graphical final design piece	• Techniques for graphical presentation of final design idea could include: o graphically hand drawn o isometric o oblique o exploded/assembly drawing o digitally manipulated imagery
	3.2 Identify the key design features within own final design	• Annotation should convey: o product features o aesthetic considerations o design developments o material and manufacturing considerations (where appropriate)
	3.3 Present a final design concept to a client	• Presentation techniques could include: o display board o digital presentation

Assessment

This unit is centre assessed and externally verified. In order to achieve the unit you must produce a portfolio of evidence which, on request, will need to be made available to the OCR external verifier. Portfolios of work must be produced independently and centres must confirm to OCR that the evidence is authentic.

Evidence requirements

Learners should:

- produce a range of design ideas based upon a client brief, sponsored or themed around a specific employer or product sector
- generate a range of initial sketched ideas that are rough in form but help to convey their idea development. These ideas should be developed into more detailed, refined ideas based upon client feed back
- demonstrate a range of communication skills using multiple types of media e.g. graphic markers, pencils, drawing pens
- annotate ideas to illustrate their thought processes
- present evidence of client feedback and its use to modify designs
- use digital image manipulation, or CAD, where appropriate to support the development of final design presentation.

The unit should conclude with a presentation of design development and final idea to a client.

Guidance on assessment and evidence requirements

This unit should be based upon a client brief derived by the centre, where possible from an employer or product sector sponsor. Learners should be given opportunity to draw, sketch and experiment with graphical techniques. Tutors should teach specific graphical techniques where appropriate. E.g. marker work. technical drawing. Learners should be taught how to use software packages such as Photoshop in order to scan and manipulate graphical design work. Tutors must ensure that learners gain skills in annotation to communicate their thought processes, client feedback and design intent. Learners should be given the opportunity to present their ideas back to a range of audiences including peers, tutors or industry partners.

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National Occupational Standards (NOS) mapping/signposting

NOS can be viewed on the relevant Sector Skills Council's website or the Occupational standards directory at www.ukstandards.co.uk.

Occupational standards	Unit number	Title
Engineering Technical Support suite 2 2007	TS2-19	Assisting in Obtaining Resources for Engineering Activities
Design	DES1	Apply research on the history and theory of design to your own design activities
Design	DES2	Apply design industry knowledge to inform your own design work practice and work
Design	DES3	Use Critical Thinking Techniques in your design work
Design	DES7	Contribute to the production of prototypes, models, mock-ups, artwork, samples or test pieces
Design	DES9	Research, test and apply techniques for the design of product
Design	DES10	Create visual designs
Design	DES19	Develop and extend critical and creative thinking skills
Design	DES20	Research design concept
Design	DES21	Articulate, present and debate ideas in a creative environment
Design	DES25	Devise User Testing of Designs
Design	DES32	Apply concepts and theories of creativity and innovation to your own design work
Design	DES33	Research and evaluate global design trends
Design	DES36	Develop and extend your design skills and practices
Design	DES38	Manage design realisation
Design	DES43	Assess design services
Design and Draughting	O15NDD03ECRS1.19	Complete chosen engineering designs
Design and Draughting	O15NDD07ECRS1.16	Generate and evaluate engineering design options
Design and Draughting	O15NDD08ECRS1.22	Develop design options
Design and Draughting	O15NDD09ECRS2.06	Communicating design options

Functional skills signposting

This section indicates where learners may have an opportunity to develop their functional skills.

Functional Skills Standards					
English		**Mathematics**		**ICT**	
Speaking and Listening	✓	Representing		Use ICT systems	✓
Reading	✓	Analysing		Find and select information	✓
Writing	✓	Interpreting		Develop, present and communicate information	✓

Resources

Equipment

For effective delivery of this unit centres should have access to the following resources and equipment.

- Computer system with Internet access, word processing, spread sheet, business presentation and photo manipulation software
- 3D CAD software (optional)
- Projector or interactive white board for delivery of presentations
- Access to a library of resources for research purposes
- Drawing pencils - graphical and colour
- Marker pens – graphical markers for presentation drawings
- Drawing boards
- Minimum A3 colour printing capacity for display board production
- Photography equipment (optional)
- Document scanner

Additional information

For further information regarding administration for this qualification, please refer to the OCR document '*Admin Guide: Vocational Qualifications' (A850)* on the OCR website www.ocr.org.uk .

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