Unit 35: Darkroom Practice

Unit code: F/502/5225
QCF Level 3: BTEC National
Credit value: 10
Guided learning hours: 60

Aim and purpose

The aim of this unit is to develop learners' skills using the equipment, materials and techniques of traditional wet-based darkroom practices.

Unit introduction

Traditional wet-based photographic darkroom practice continues to be used in some areas of professional photography. Although digital processing is now more common, traditional wet-based darkroom practice is particularly used for black and white exhibition printing and fine art photography. Working in the darkroom can be very satisfying; skilled photographers and printers work to very high standards to make prints that are suitable for exhibition. High quality prints can only be produced from correctly exposed negatives which have been processed to equally high standards. Therefore understanding how to process photographic film correctly is an important skill to be learned if high quality photographic prints are required. Black and white printing can be helpful in promoting a good understanding of exposure. For example, exposing photographic paper under a photographic enlarger and watching the image appear in the developer can clearly reveal the relationship between time and intensity.

This unit introduces learners to the equipment, materials and techniques associated with traditional wet-based darkroom practice. Learners will develop their photographic film processing and printing skills whilst using darkroom equipment, materials and techniques to create their own photographs. Learners will learn to recognise common technical faults and review their work from a technical perspective. Health and safety practices appropriate to safe darkroom working will be introduced.

Learning outcomes

On completion of this unit a learner should:

1 Be able to carry out black and white negative processing in the darkroom

2 Be able to produce black and white prints in the darkroom

3 Be able to present own photographic darkroom production work.

Unit content

1 Be able to carry out black and white negative processing in the darkroom

Process and practice: equipment eg daylight processing tanks, deep tanks, dishes, machines, safe-lighting; chemistry selection for film type eg developer types (fine grain, speed increasing, acutance, lith); stages eg development, stop, fix, wash, wetting agent, dry; controls eg time, temperature, agitation, dilution, push processing, pull processing; health and safety eg COSHH, risk assessment, risk minimisation

2 Be able to produce black and white prints in the darkroom

Printing materials: film and paper types eg fibre-based, resin-coated, graded, variable grade, tone; handling eg spectral sensitivity, safe-lighting, exposure, filtration

Process and practice: equipment eg enlargers, filtration, daylight processing tanks, dishes, machines; stages eg development, stop, fix, wash, dry; controls eg time, temperature, agitation, dilution; modification during exposure eg contrast control, dodging, masking, shading, double exposure; simple after processes eg toning, tinting, print finishing (retouching, trimming)

3 Be able to present own photographic darkroom production work

Report: film technical evaluation eg density, contrast; common faults eg scratches, water marks, drying marks, fogging, uneven development; print technical evaluation eg focus, density, contrast; common faults eg fogging, uneven development; studio practices, eliminating common faults

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 apply photographic darkroom practices safely when processing negatives [RL, IE, CT, SM]	**M1** apply photographic darkroom practices purposefully to produce effective black and white negatives and prints	**D1** apply photographic darkroom practices independently to produce creative black and white negatives and prints giving coherent explanations about work practices to eliminate common technical faults.
P2 apply photographic darkroom practices safely when producing black and white prints [RL, IE, CT, SM]	**M2** evaluate own black and white negatives and prints with well considered reflection on technical factors.	
P3 describe own black and white negatives and prints. [RL, CT, EP]		

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

For this unit learners require access to appropriate photographic darkroom equipment, chemistry and media to create black and white negatives and prints. Learners also need access to equipment and chemistry for simple after processes and print finishing.

To enable learners to explore darkroom equipment and techniques learners need to have available exposed monochrome film suitable for processing and printing. The outcomes of this unit may be achieved effectively if delivered in combination with one or more specialist pathway units. Alternatively a programme of assignments which encourage learner creativity in the exploration and experimentation with photographic darkroom practices can be used for this purpose.

Tutors need to emphasise the health and safety requirements of working in the photographic darkroom environment early in the delivery of this unit to ensure learners adhere to the appropriate COSHH guidance. Tutors need to devise an approach which balances the delivery of underpinning knowledge through workshops and lecture presentations with practical darkroom working. Tutors need to guide learners to appropriate technical information such as manufacturers' data sheets and articles in photographic periodicals to provide learners with a departure point for their own research. Learners should be encouraged to explore the potential of darkroom processes with an appropriate balance between the technical and the creative.

Tutors should develop a structure which encourages regular group discussion and review of darkroom practices and work produced take place. During the initial stages of darkroom work learners will need frequent one-to-one feedback to support effective progress, with increased autonomy being achieved as the unit progresses. Learners should use logbooks to record findings from their experimentations, recording technical data, making notes about practices employed and reflecting on their achievements throughout. Through this structure learners should be encouraged to develop their critical, analytical vocabularies both in discussion and in the written evaluative notes in their logbooks.

To enable learners to carry out black and white negative processing and contact printing in the photographic darkroom, tutors need to demonstrate the equipment and practices associated with film processing, as shown in assignments 1 and 2 in the outline learning plan. Tutors should also deliver underpinning theory to support learners in their work with specified film and developer types. Once learners become skilled at handling a specified film and developer combination consistently, they can be encouraged to explore film processing and practices further. For example learners may be encouraged to experiment with different film and developer combinations and manipulate controls during processing so that they begin to experience the potential of film processing. Learners should use logbooks to record technical data and their darkroom practices when undertaking film processing. As learner autonomy increases, logbooks should also be used to annotate and review learners' independent research on film and developer combinations and film processing techniques. Learners should be encouraged to use the correct technical language when evaluating their work to develop their technical vocabulary.

To be able to produce black and white prints in the photographic darkroom, learners need to be introduced to the associated materials, processes and practices. Tutors need to deliver the underpinning theory and demonstrate darkroom practices to support learners in their work with specified printing materials and developer types. Tutors should review learners' progress with their printing frequently at first, for example giving guidance about accurate exposure from each test strip produced. As learners gain confidence and become more able to reflect on the technical qualities of their own work they will become more autonomous, refining their printing to an appropriate technical standard. Once learners have begun to develop their printing skills and are becoming confident with specified materials and developer types, their exploration and experimentation can be extended to include the use of different printing materials and simple after processes, as shown in assignment 3. Learners should use their logbooks to record technical data, their independent explorations and darkroom practices when producing black and white prints.

When reporting on their own black and white negatives and prints, learners should present, orally with reference to logbook contents, their work from technical perspectives. Learners should identify common processing faults that they may have experienced or observed. Learners should also provide a clear rationale for work practices which minimise or eliminate the occurrence of common faults. Learners should reflect on their own work and link their darkroom practice at each stage of the process to the technical quality of their work. If learners have been encouraged to examine their work critically through regular group discussion, their technical, critical and analytical vocabularies will have been developed and sufficient information will have been gathered to support learners in their reflective process. Learner logbooks should include independent research, test prints with evaluative annotations and associated technical data. Learners should also be encouraged to review the aesthetic qualities of their work and give consideration to its fitness for intended purpose.

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/activities and/assessment
Introduction to unit and structure of the programme – whole class.
Darkroom process and practice to produce black and white photographic negatives – whole class.
Darkroom process and practice to produce black and white photographic prints – whole class.
Assignment 1: Expose for Shadows and Process for Highlights Learners prepare their individual logbooks to include: • notes from tutor demonstrations and workshops including health and safety reference materials • annotated technical reference material and annotations of own work in progress including technical data • negatives and contact prints produced using specified film and print process and practice • report upon technical quality of own finished negatives and contacts.
Assignment 2: Time, Intensity and Adjusting Film Density Learners prepare their individual logbooks to include: • notes from tutor demonstrations and workshops to include details about processes and practices to support manipulation during film processing • annotated technical reference material and annotations of own work in progress including technical data • negatives and contact prints produced using specified film and print process and practice • report on technical quality of own finished negatives and contacts.

Topic and suggested assignments/activities and/assessment
Assignment 3: Printing the Subject Learners prepare their individual logbooks to include: • notes from tutor demonstrations and workshops to include details about print materials, process and practice to support printing to reflect subject contrast range • annotated reference material including independent research on paper materials, process and practice, plus annotations of own work in progress • negatives and prints produced using negotiated film and print process and practice • report on technical quality of own finished negatives and prints.
Assignment 4: Creating the Subject Learners prepare their individual logbooks to include: • notes from tutor demonstrations and workshops to include details about print materials, process and practice to support printing to modify subject contrast range • annotated reference material including independent research on paper materials, process and practice, plus annotations of own work in progress • negatives and prints produced using negotiated film and print process and practice • report upon technical quality of own finished negatives and prints.

Assessment

For P1, learners must apply photographic darkroom practices safely to produce black and white negatives which exhibit few technical faults. At pass level learners' final negatives will demonstrate that darkroom practices have been appropriately applied. However, learners may require support to apply controls such as push processing successfully. Similarly, negatives may show common faults such as drying marks and learners may require support to develop work practices that help to minimise such faults. Logbook evidence should include notes from tutor-led workshops and demonstrations including those related to health and safety. Records of findings arising from learners' own darkroom working when producing black and white negatives should also be included in learner logbooks.

For P2, learners must apply photographic darkroom practices to produce black and white prints which may exhibit minor technical faults. Learner work at pass level may include prints that are generally technically acceptable but which exhibit a slightly limited tonal range. Prints display limited highlight detail may indicate the use of an inappropriate paper grade. Learners at pass level may need support to make a print using variable grades and simple burning and dodging to achieve an appropriate contrast range. Logbook evidence should include notes from tutor-led workshops and demonstrations and records of learners' findings arising from their own printing explorations.

For P3, learners must describe their own black and white negatives and prints. At pass grade learners will typically report literally and descriptively on their work, perhaps reiterating their steps in the process rather than evaluating their use of the process. For example, learner identification of common faults may be limited and the links between their own work practices and the occurrence of faults may not be clear. Similarly, learner suggestions for ways of working which may minimise the occurrence of common faults may not be explicit. However, learners should use correct technical vocabulary when reporting their work and should make some judgements about the aesthetic qualities of their work.

For M1, learners must apply photographic darkroom practices purposefully to produce effective black and white negatives and prints that reflect skill through the absence of technical faults. Learner work, including logbook evidence, show purposeful and effective use of film and print process and practice. For example, learners may show initiative in extending their knowledge of the potential for modifying prints or negatives, perhaps through independent exploration of different developer types to create individual results. At merit level learners' final negatives and prints should typically demonstrate skilful application of darkroom process and practices. Negatives and prints should be free from any common faults and learners should require only occasional limited support, for example when printing using double exposures. Learner logbooks at merit grade should typically demonstrate reflective work practices in which work has been refined to achieve skilful final outcomes through exploration of different approaches.

For M2, learners must evaluate their own black and white negatives and prints with well considered reflection on technical faults. At merit grade learners should typically show an understanding of the attributes of their own work, identifying common faults and making links to their own work practices. Learners should give clear explanations about the work processes necessary to help to minimise the occurrence of common faults. Learners who have worked productively to refine their work may also be able to demonstrate their progress in eliminating common faults through annotated examples of their own work in their logbooks. Learners should use correct technical vocabulary when reporting their work and should make judgements about the aesthetic qualities of their work. Learner evaluation at merit level should show they have reflected on the production process as well as the product and should make clear reference to areas for improvement and the potential for further exploration.

For D1, learners must apply photographic darkroom practices independently to produce creative black and white negatives and prints, giving coherent explanations about work practices to eliminate common technical faults. Learners at distinction level should typically show a high level of skill, creativity and independence in the production of their work. For example, they may show skilful handling of film processing and printing processes to create prints which successfully modify or enhance the qualities of the subject. At distinction level learner reports on their work should demonstrate an evaluative approach with coherent critical and analytical explanations being provided about work practices to be adopted to eliminate common technical faults. Logbook evidence should show evidence of significant refinement of work. Process and practice will have been explored extensively and independently to inform both film and print production. For instance, a logbook may include critical evaluation of films processed using different chemistry with identification of processing faults and evidence that this information has been used to revise working practice. Typically exploration of printing materials will demonstrate initiative and be linked to creative intention. Learner explanations and references to areas of improvement should be coherent, perceptive and should demonstrate well considered reflection on the production process as well as the product.

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, M1, D1 P2, M2 P3	**Assignment 1**: Expose for Shadows and Process for Highlights	Learners process correctly exposed film using: • specified film process and practice • specified contact print material, process and practice.	Film. Prints. Oral report and logbook presentation.
P1, M1, D1 P2, M2 P3	**Assignment 2**: Time, Intensity and Adjusting Film Density	Learners pull process film which has been exposed to a high contrast subject and push process film which has been exposed to a low contrast subject using: • specified film process and practice • specified contact print material, process and practice.	Film. Prints. Oral report and logbook presentation.
P1, M1, D1 P2, M2 P3	**Assignment 3**: Printing the Subject	Learners use their correctly exposed and processed negatives to produce prints which record the approximate contrast range of the subject: • negotiated film process and practice • negotiated print materials, process and practice.	Film. Prints. Oral report and logbook presentation.
P1, M1, D1 P2, M2 P3	**Assignment 4**: Creating the Subject	Learners produce negatives and prints which enhance or modify the qualities of the subject: • negotiated film process and practice • negotiated print materials, process and practice.	Film. Prints. Oral report and logbook presentation.

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 unit titles in the BTEC Art and Design suite:

Level 1	Level 2	Level 3
Introduction to Photography	Photography Techniques	Photographic Media, Techniques and Technology
Explore Materials, Techniques and Processes in Art and Design	Working with Photography Briefs	Darkroom Applications

Essential resources

Learners require access to a photographic darkroom, enlargers, film and paper processing chemicals and equipment.

Employer engagement and vocational contexts

Centres should develop links with practising photographers, 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.

Centres should try to establish links with professional artists and designers to enable learners to access the key elements that influence the choice of their working and presentation methods. Learners are enlightened and motivated by finding out how a professional works. Open days at FE and HE establishments will broaden learners' horizons and expose them to examples of design presentations and the effects on the audience of the methods chosen.

Learners should be exposed to as wide a range of materials, methods and techniques as possible, from notebook presentations through to online galleries. Reviews of museum/gallery visits, online exhibitions or virtual galleries may be used to support this process.

Skillset, the Sector Skills Council for Creative Media (www.skillset.org), provides details (www.skillset.org/careers) on careers and the industry and has plus a regularly updated news and events page.

Indicative reading for learners

Textbooks

Anchell S – *The Darkroom Cookbook* (Focal Press, 2008) ISBN 978-0240810553

Faris-Belt A – *The Elements of Photography: Understanding and Creating Sophisticated Images* (Focal Press, 2008) ISBN 978-0240809427

Hirsch R – *Photographic Possibilities: The Expressive Use of Equipment, Ideas, Materials and Processes* (Focal Press, 2008) ISBN 978-0240810133

Ingledew J – *Photography* (Portfolio Series) (Laurence King, 2005) ISBN 978-1856694322

Langford M, Fox A and Sawdon Smith R – *Langford's Basic Photography: The Guide for Serious Photographers* (Focal Press, 2007) ISBN 978-0240520353

Salvaggio N – *Basic Photographic Materials and Processes* (Focal Press, 2009) ISBN 978-0240809847

Journals

British Journal of Photography – Incisive Media

Digital Photo – EMAP

Practical Photography – EMAP

Websites

www.skillset.org	The Sector Skills Council for Creative Media
www.hse.gov.uk	Health and Safety Executive
www.hse.gov.uk/coshh	Control of Substances Hazardous to Health
www.opsi.gov.uk	Office of Public Sector information

Delivery of personal, learning and thinking skills (PLTS)

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	exploring black and white darkroom process and practice
Creative thinkers	engaged in independent production of black and white negatives and prints
Reflective learners	reflecting on work practices and linking these to common technical faults reporting on their own application of black and white darkroom process and practice
Self-managers	managing time and resources when involved in independent production of their own black and white negatives and prints.

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 ...
Reflective learners	evaluating their work through structured critical review and using outcomes of review to inform future progress
Effective participators	working in groups to review work.

Functional Skills – Level 2

Skill	When learners are ...
ICT – Find and select information	
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	sourcing information from websites and electronic publications about photography and darkroom processes
English	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	sourcing and reading information about black and white printing reading and absorbing information about health and safety relating to peripherals/equipment to be used
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	gathering and recording relevant technical information about equipment compiling information about processing and printing techniques.