Film Developing Times

	Developer	66°F/19°C	68°F/20°C	70°F/21°C	72°F/22°C	75°F/24°C
Kodak 100 T-MAX	D-76 (Stock)	7:15	6:30	6	5:15	NR
	D-76 (1:1)	10:30	9:30	8:30	7:45	6:30
	T-MAX (1:4)	8:30	7:30	6:45	6	5:15
	HC 110 Dilution B (1:31)	6:30	6	5:30	5	NR
	Ilford ID-11 (Straight)	8:45	8	7:15	6:30	5:30
	Ilford ID-11 (1:1)	13:15	12	10:45	9:45	8:15
Kodak 400 T-MAX	D-76 (Stock)	8:45	8	7:15	6:30	5:30
	D-76 (1:1)/Ilford ID-11 (1:1)	13:45	12:30	11:15	10	8:45
	T-MAX (1:4)/Ilford ID-11 (Straight)	7:45	7	6:30	5:45	5
	HC 110 Dilution B (1:31)	6:30	6	5:30	5	NR
Kodak 400 TRI-X	D-76 (Stock)	7:30	6:45	6:15	5:30	4:45
	D-76 (1:1)	11	9:45	8:45	8	6:45
	Ilford ID-11 (Straight)	8:30	7:30	6:45	6	5:15
	Ilford ID-11 (1:1)	11:15	10	9	8	7
Ilford Pan F Plus (50)	D-76 (Stock)/Ilford ID-11 (Straight)	7:15	6:30	6	5:15	NR
	D-76 (1:1)	11:45	10:30	9:30	8:30	7:15
	Ilford ID-11 (1:1)	9:30	8:30	7:45	7	6
Ilford FP4 Plus (125)	D-76 (Stock)	8:45	8	7:15	6:30	5:30
	D-76 (1:1)/Ilford ID-11 (1:1)	12:15	11	10	9	7:30
	Ilford ID-11 (Straight)	9:30	8:30	7:45	7	6
Iford HP5 Plus (400)	D-76 (Stock)/Ilford ID-11 (Straight)	8:30	7:30	6:45	6	5:15
	D-76 (1:1)	12:15	11	10	9	7:30
	HC 110 Dilution B (1:31)	5:30	5	NR	NR	NR
	Ilford ID-11 (1:1)	14:30	13	11:45	10:30	9
Ilford Delta 100	D-76 (Stock)	10	9	8	7:15	6:15
	D-76 (1:1)	13:15	12	10:45	9:45	8:15
	HC 110 Dilution B (1:31)	6:30	6	5:30	5	NR
	Ilford ID-11 (Straight)	9:30	8:30	7:45	7	6
	Ilford ID-11 (1:1)	12:15	11	10	9	7:30
Ilford Delta 400	D-76 (Stock)/Ilford ID-11 (Straight)	10:30	9:30	8:30	7:45	6:30
	D-76 (1:1)/Ilford ID-11 (1:1)	15:30	14	12:30	11:15	9:45
	HC 110 Dilution B (1:31)	8:30	7:30	6:45	6	5:15
Ilford Delta 3200	D-76 (Stock)/Ilford ID-11 (Straight)	11:45	10:30	9:30	8:30	7:15
	HC 110 Dilution B (1:31)	16	14:30	13	11:45	10

NR=not recommended since unsatisfactory uniformity may result with development times less than 5 minutes.
Agitation for 10 seconds at 1 minute intervals—time in minutes/seconds.
For additional films, developers, dilutions, and time/temp chart
see the Massive Dev Chart at
http://www.digitaltruth.com/devchart.html

ISBN 978-0-9663215-1-7

Workbook for Black & White PHOTOGRAPHY

Kim Mosley

Workbook for Black & White Photography

3rd Edition

KEYED TO: *Black & White Photography: A Basic Manual*
Henry Horenstein
Third Edition: Little, Brown, and Company

It has always been my belief that the true artist, like the true scientist, is a researcher using materials and techniques to dig into the truth and meaning of the world in which he himself lives, and what he creates, or better perhaps, brings back, are the objective results of his explorations. The measure of his talent—of his genius, if you will—is the richness he finds on such a life's voyage of discovery and the effectiveness with which he is able to embody it through his chosen medium. —Paul Strand, 1963

Kim Mosley, former Professor, St. Louis Community College
Also taught photography at: Bradley University, Southern Methodist University, Lindenwood University, and The School of the Art Institute of Chicago

ISBN: 978-0-9663215-1-7

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Additional copies of this workbook are available by emailing or calling Kim Mosley. Eighth printing of third edition, August 2017

FORWARD

This twenty-second printing celebrates the 38th year this workbook has been in use. It proves the need for supplemental materials to enhance learning. It is used in classrooms, by individual self-learners, and even in a correspondence course offered by the University of Missouri. It has a companion book: *Digital Photography: A Workbook* (Kim Mosley) that accompanies Henry Horenstein's excellent book, *Digital Photography: A Basic Manual*.

The function of this workbook is, first, to provide an active learning experience of basic black and white photography, and second, to provide an approach toward critically reading any technical manual.

As a student, it is important that you answer the questions before they are dealt with in class. This will provide you with both a challenge and an opportunity to know, as Socrates put it, what you don't know.

And as an instructor, I suggest that you assign the various chapters in the workbook before the material will be covered in class. Sometimes you will find that the workbook will both initiate and organize discussions about the information.

This workbook would not be what it is without the influence of Robert Erickson, who introduced me to photography in 1959 at the University of Chicago Laboratory Schools, and who contributed the drawing for the cover. As well, I thank St. Louis Community College, who provided funds and encouragement for the production of the first edition, and to a number of photographer-educators including Hans Levi, Susan Hacker, Mark Woehrle, Paul Kohl, Celia Jordan and Ken White who have used the workbook and have given me useful feedback toward its use and improvement. Thanks also goes to Hans Levi for his appendix on the threshold-of-black contact sheet and to John Nagel for his appendix, "Historical Photographic Processes."

Chris Licata was wonderful to create the design for this edition. Others gave invaluable help, including Florence Bommarito, Linda Mosley, and Michael Martin.

I am interested in all uses and suggestions for improvement of this workbook. As further printings come out, your suggestions will be incorporated, making the workbook as useful as possible.

Contents

Note: The first number on the left indicates the page on which you can find the answer.

ii-1 What visual devices does Sally Mann use to lead the viewer's eye to the young girl? ____________________

____

____

BEGINNINGS 1

2-1 Describe a juxtaposition you could make to bring humor into a photograph. ____________________

____

3-1 Can great pictures be made with a basic camera? ____________________

4-1 How often should you replace your battery? ____________________

____

4-2 True / False You should switch off a camera when not using it.

4-3 Indicate with an X what film to use in the chart below.

Films	Indoors	Flash	Outdoors
200 ISO			
400 ISO			

5-1 What is the consequence if you pull out more film than you need? ____________________

____

6-1 How much should you advance the film? ____________________

____

6-2 True / False Advance the film in a manually loaded camera until the film counter reads "0."

6-3 True / False A wide lens aperture, such as f/2, lets in a lot of light.

7-1 True / False A shutter speed of 1/500 lets in more light than 1/60.

7-2 What can a light meter tell you? ____________________

____

7-3 What two things determine how much light hits the film in the camera?

1) ____________________

2) ____________________

8-1 What three things should you do before you take a picture? 1) ______________________________

2) ______________________________ 3) ______________________________

8-2 A camera with a/an ____________________ rewind feature allows you to safely open the back without first manually cranking the film back into its cassette.

9-1 True / False Exposed film is not called a negative until it is developed.

9-2 Describe a particular effect you would like to obtain by printing a picture yourself.

____

____

10-1 Describe a particular situation and how you might photograph it in a way other than the obvious.

____

____

2 Camera Types

11-1 Why do you think the author says that photographers, rather than cameras, make good pictures?

____

____

11-2 List the three main types of cameras and describe the unique qualities of each:

1) ______________________________

2) ______________________________

3) ______________________________

11-3 True / False With an SLR camera, the image is viewed during exposure, while the mirror is flipped up.

12-1 How does the camera make the image look right side up in a SLR camera? ______________________________

____

14-1 With a rangefinder camera, how do you know when the lens is focused on your subject?

____

14-2 List three advantages of a rangefinder camera:

1) ______________________________

2) ______________________________

3) ______________________________

15-1 What type of camera needs parallax correction? ______________________________

16-1 Describe three ways that a view camera allows more control over the image:

1) ______________________________

2) ______________________________

3) ______________________________

17-1 Describe a situation where you'd like to use a point-and-shoot camera.

____

____

18-1 Describe a series of photos that would be more interesting if they were shot with a Holga camera.

____

____

____

19-1 Describe the feeling that is evoked by Thomas Geary's photo on page 19.

____

____

____

20-1 How is viewing through a TLR different from an SLR camera? ______________________________

____

20-2 True / False With a TLR camera, the image can be viewed during the exposure.

21-1 List four distinct advantages of using a digital camera:

1) ______________________________

2) ______________________________

3) ______________________________

4) ______________________________

21-2 What two types of adjustments or manipulations might you need to make to images from a digital camera?

1) ______________________________

2) ______________________________

Course of Study Outline

Photography I (16 weeks)

1. **Catalog Description:** This course is an introduction to the medium of black and white photography, encompassing control of the craft and the meaning of the image. Students should have a camera with full aperture and shutter speed controls.

2. **Textbooks:**
   A. Henry Horenstein, *Black and White Photography,* Third Revised Edition
   B. Kim Mosley, *Workbook for Black and White Photography*

3. **General Objectives:**
   A. Exposure control—how to evaluate a scene and set the camera to properly expose the film.
   B. Development control—how to develop the film based on various considerations such as the contrast of the scene, the objectives of the photographer, etc.
   C. Printing controls—how to dodge, burn, double print, and vary contrast with filters and/or graded papers.
   D. Presentation—how to prepare prints for exhibition and portfolios.

4. **Outcomes**: The following topics are typical of what will be covered in Photography I. The list, though not inclusive or exclusive, suggests what can be expected of the student to learn.
   A. Use of the darkroom—students will learn darkroom skills, including film development, contact printing, and enlarging with controls for darkness/lightness, contrast, and dodging/burning.
   B. Use of the camera—students will learn the operation of their cameras for a variety of situations and lighting conditions. Various methods of emphasis will be investigated, including those produced with selective focus and slow shutter speeds.
   C. Presentation—various materials and equipment will be used to spot, mount, and exhibit photographs.
   D. History of photography—the work of historical and contemporary photographers will be introduced.
   E. Assignments—6 to 7 assignments designed to give a technical and aesthetic understanding of basic photography will be given.

5. **Course Requirements. Grading is based on the following:**
   A. Attendance and Participation—class discussions and lectures are an essential part of the learning experience and cannot be duplicated by reading another student's notes or doing independent work. The class depends on the participation by each student. Regular class attendance is a requirement that must be met to obtain credit. Attendance will definitely be a consideration at the time of the final grade. Absences that exceed 4 classes (or 2 classes for a once-a-week class) will be considered excessive. Coming to class late may count as 1/2 of an absence.
   B. Assignments—are given approximately every two weeks and one-half weeks, and constitute 80% of the grade. All work can be completed during the class time with the exception of shooting and developing film. C. Examinations—may be given throughout the semester and constitute 20% of the grade. They will cover information in the text and workbook, discussions in class, and information learned through the assignments.

Supplies for Photography I

Textbooks:

Black & White Photography, Henry Horenstein, Third Revised Edition
Workbook for Black & White Photography, Kim Mosley

Equipment and Supplies: Your instructor will probably recommend specific products.

1. Tank for developing film (plastic or metal)
2. Glass or metal thermometer
3. Film developer
4. Stop bath
5. Fixer (also called hypo).
6. Hypo eliminator (to reduce washing time of film from 30 minutes to 5 minutes).
7. Wetting agent
8. Negative holders to hold 7 strips of 5 if using 35mm.
9. Photographic paper–(RC or fiber)
10. Photographic film–35mm 20 exp. unless you have a different format camera.