



# Basic Film Photography

## EXAM INFORMATION

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**Items**

77

**Points**

77

**Prerequisites**

NONE

**Grade Level**

10-12

**Course Length**

ONE SEMESTER

**Career Cluster**

ARTS, A/V TECHNOLOGY, AND  
COMMUNICATION

**Performance Standards**

INCLUDED

**Certificate Available**

YES

## DESCRIPTION

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This course is part of a sequence of courses that prepares individuals to use artistic techniques combined with a commercial perspective to communicate ideas and information effectively to business and consumer audiences via the use of black and white photography. Instruction includes training in specialized camera and equipment operation, film processing, dark room procedures, maintenance, applications to commercial and industrial needs, and photography business operations.

Basic equipment requirements for this course are: 35mm film cameras, black & white 35mm film, film developing tanks, reels and proper chemistry and a darkroom equipped with enlargers, trays & necessary paper, chemistry and supplies. The requirements of this course cannot be met without this basic equipment.

## EXAM BLUEPRINT

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**STANDARD**

**PERCENTAGE OF EXAM**

1- Commercial Photography in the Workplace	4%
2- Safe Practices and Housekeeping Duties	3%
3- Camera Operations	23%
4- Photography Techniques in Subjects	5%
5- Black and White Film Characteristics	15%
6- Equipment and Exposure for Black and White	23%
7- Chemical Processing for Black and White	15%
8- How to Finish Prints	8%
9- Ethics and Legal Issues	2%
10- Commercial Photography as a Profession	2%



## **STANDARD 1**

STUDENTS WILL BE ABLE TO UNDERSTAND THE ROLE OF COMMERCIAL PHOTOGRAPHY IN THE WORKPLACE

- Objective 1 Evaluate photographic work.
- Objective 2 Display photographic work.
- Objective 3 Survey employment opportunities.
- Objective 4 Review career possibilities.
- Objective 5 History and origins of photography

Standard 1 Performance Evaluation included below (Optional)

## **STANDARD 2**

STUDENTS WILL BE ABLE TO UNDERSTAND AND APPLY SAFE PRACTICES AND HOUSEKEEPING DUTIES

- Objective 1 Comply with lab and equipment safety rules.
- Objective 2 Inspect work area and equipment for safe working environment.
- Objective 3 Report lab, environmental, and equipment safety violations.
- Objective 4 Comply with safety rules for working with photographic chemicals (MSDS).
- Objective 5 Clean and maintain work area and leave in safe condition.
- Objective 6 Report problems to instructor.

Standard 2 Performance Evaluation included below (Optional)

## **STANDARD 3**

STUDENTS WILL BE ABLE TO UNDERSTAND AND PERFORM CAMERA OPERATIONS

- Objective 1 Identify basic camera parts.
- Objective 2 Identify appropriate lens for specific needs.
- Objective 3 Identify when to use a tripod.
- Objective 4 Identify appropriate use of a flash and its synchronization.
- Objective 5 Identify the effect of aperture and shutter speeds and how they control exposure.
- Objective 6 Demonstrate understanding of how to correctly load and expose film using a 35mm camera.
- Objective 7 Identify the difference between Shutter Priority and Aperture Priority.
- Objective 8 Be familiar with the following types of cameras and their application: medium format/twin lens reflex, View, SLR, and Rangefinder.

Standard 3 Performance Evaluation included below (Optional)



## **STANDARD 4**

STUDENTS WILL BE ABLE TO UNDERSTAND AND DEMONSTRATE PHOTOGRAPHING TECHNIQUES IN SUBJECTS

- Objective 1 Identify importance of appropriate background, foreground, and main subject.
- Objective 2 Demonstrate the effects of light and the direction of light.
- Objective 3 Photograph an individual on location.
- Objective 4 Photograph a group on location.
- Objective 5 Take photos of action subjects.
- Objective 6 Demonstrate how to control depth of field.

Standard 4 Performance Evaluation included below (Optional)

## **STANDARD 5**

STUDENTS WILL BE ABLE TO UNDERSTAND AND IDENTIFY BLACK AND WHITE FILM CHARACTERISTICS AND DEVELOPMENT OF BLACK AND WHITE FILM

- Objective 1 Identify film characteristics that include DX Coding, ISO, type of film, grain, and the format of film.
- Objective 2 Understand film processing for black and white film.
- Objective 3 Load black and white film into daylight development tanks.
- Objective 4 Develop black and white film using daylight development tanks.
- Objective 5 Identify problems in black and white film developing.

Standard 5 Performance Evaluation included below (Optional)

## **STANDARD 6**

STUDENTS WILL BE ABLE TO SET UP EQUIPMENT AND DETERMINE EXPOSURE SETTINGS FOR BLACK AND WHITE PHOTOGRAPHIC PRINTING

- Objective 1 Identify the parts of an enlarger.
- Objective 2 Identify other equipment used in enlarging.
- Objective 3 Expose and develop contact sheets (proof sheets).
- Objective 4 Demonstrate appropriate methods to clean negatives.
- Objective 5 Demonstrate how to use variable contrast filters.
- Objective 6 Demonstrate how to crop an image.
- Objective 7 Establish exposure settings for black and white prints using a test strip.
- Objective 8 Demonstrate the dodging and burning in of an image during printing.
- Objective 9 Demonstrate the black and white printing process.
- Objective 10 Identify the benefits of resin coated and variable contrast paper.
- Objective 11 Identify the colors of safelights used for black and white printing.



Standard 6 Performance Evaluation included below (Optional)

## **STANDARD 7**

STUDENTS WILL BE ABLE TO IDENTIFY AND DEMONSTRATE THE CHEMICAL PROCESSING PROCEDURES FOR DEVELOPING BLACK AND WHITE PHOTOGRAPHIC PAPER

- Objective 1 Identify the function and safe handling of each black and white paper developing chemical.
- Objective 2 Identify the order or sequence for developing black and white photographic paper.
- Objective 3 Identify problems occurring during the print developing sequence (troubleshooting: time, light, chemicals, washing and drying).

Standard 7 Performance Evaluation included below (Optional)

## **STANDARD 8**

STUDENTS WILL BE ABLE TO UNDERSTAND AND DEMONSTRATE HOW TO FINISH PRINTS

- Objective 1 Demonstrate spotting and retouching of a print.
- Objective 2 Demonstrate the mounting of a print.
- Objective 3 Demonstrate the matting/framing of a print.

Standard 8 Performance Evaluation included below (Optional)

## **STANDARD 9**

STUDENTS WILL BE ABLE TO UNDERSTAND AND PRACTICE COPYRIGHT LAWS, ETHICS, AND LEGAL ISSUES DEALING WITH PHOTOGRAPHY AS IDENTIFIED IN UNITED STATES CODE TITLE 17 CHAPTER 1 SECTION 101

- Objective 1 Define copyright.
- Objective 2 Other definitions
  1. Audiovisual works
  2. Computer program
  3. Copies
  4. Copyright owner
  5. Digital transmission
  6. Financial gain
  7. Pictorial, graphic, and sculptural works
  8. Work of visual art
- Objective 3 Students will practice ethics and rules governing photojournalism (e.g., editorial content must not be changed)
- Objective 4 Students will practice correct usage of copyright laws (i.e. the right to reproduce, manipulate, distribute, plagiarize, or exhibit another photographer's work outside of fair use provisions)
  1. Time limitations
  2. Portion limitations



3. Text material
4. Illustrations and photographs
5. Copying and distribution limitations

**Objective 5** Students will demonstrate understanding of ethics related to social and legal issues in subject choice (i.e. model releases, image appropriateness, and cultural sensitivity)

Standard 9 Performance Evaluation included below (Optional)

## **STANDARD 10**

**STUDENTS WILL GAIN AN UNDERSTANDING OF COMMERCIAL PHOTOGRAPHY AS A PROFESSION AND WILL DEVELOP PROFESSIONAL SKILLS FOR THE WORKPLACE**

**Objective 1** As a participating member of the SkillsUSA<sup>1</sup> student organization, complete the SkillsUSA Level I Professional Development Program.

1. Complete a self-assessment inventory and identify individual learning styles.
2. Discover self-motivation techniques and establish short-term goals.
3. Determine individual time-management skills.
4. Define future occupations.
5. Define awareness of cultural diversity and equity issues.
6. Recognize the benefits of conducting a community service project.
7. Demonstrate effective communication skills with others.
8. Participate in a shadowing activity.
9. Identify components of an employment portfolio.
10. Explore what is ethical in the workplace or school.
11. Demonstrate proficiency in program competencies.
12. Explore what is ethical in the workplace or school.
  1. State the SkillsUSA motto.
  2. State the SkillsUSA creed.
  3. Learn the SkillsUSA colors.
  4. Describe the official SkillsUSA dress.
  5. Describe the procedure for becoming a SkillsUSA officer.

**Objective 2** Understand the use of drawings in architectural design and how those drawings relate to career opportunities.

**Objective 3** Display a professional attitude toward the instructor and peers.



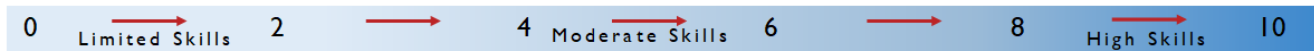
## Basic Film Photography Performance Standards (Optional)

Performance assessments may be completed and evaluated at any time during the course. The following performance skills are to be used in connection with the associated standards and exam. To pass the performance standard the student must attain a performance standard average of **8 or higher** on the rating scale. Students may be encouraged to repeat the objectives until they average **8 or higher**.

Students Name \_\_\_\_\_

Class \_\_\_\_\_

### PERFORMANCE RATING SCALE



#### STANDARD 1 Commercial Photography in the Workplace

Score:

- Understand commercial photography orientation in the workplace

#### STANDARD 2 Safe Practices and Housekeeping Duties

Score:

- Understand and demonstrate safe practices
  - Comply with lab and equipment safety rules
  - Inspect work area and equipment for safe working environment
  - Report lab, environmental, and equipment safety violations
  - Comply with safety rules for working with photographic chemicals (MSDS)
  - Clean and maintain work area and leave in safe condition
  - Report problems to instructor

#### STANDARD 3 Camera Operations

Score:

- Identify basic camera parts
- Identify appt. lenses for specific needs
- Identify appropriate use of a flash and its synchronization
- Identify the effect of aperture and shutter speeds and how they control exposure
- Demonstrate understanding of how to expose film using a 35mm camera
- Identify the difference between Shutter Priority and Aperture Priority
- Identify when to use a tripod
- Demonstrate how to control depth of field
- Be familiar with the following types of cameras and their applications
  - Medium format
  - View
  - Rangefinder
  - Twin Lens Reflex
  - Aps
  - Polaroid
  - SLR



## **STANDARD 4 Photographing Techniques in Subjects**

**Score:**

- Demonstrate effects and directions of light
- Photograph an individual on location
- Photograph a group on location
- Take photos of actions subjects
- In pictures, identify importance of appropriate
  - Background
  - Foreground
  - Subject

## **STANDARD 5 Black and White Film Characteristics and Developing**

**Score:**

- Identify film characteristics which include:
  - DX Coding
  - Grain
  - ISO
  - Format of film
  - Type of film
- Identify required film processing for:
  - Black and white film
  - Color Slide Film
  - Color Print
  - Chromogenic Film
- Load and develop black and white film into daylight development tanks
- Identify problems in black and white film developing

## **STANDARD 6 Equipment and Exposure Settings for Black and White Film**

**Score:**

- Identify the parts of an enlarger with accessories and their purposes
- Expose and develop contact sheets (proof sheets)
- Demonstrate appropriate methods to clean negatives
- Demonstrate how to use variable contrast filters
- Demonstrate how to crop an image
- Establish exposure settings for black and white prints, using test strip
- Demonstrate the dodging and burning in of an image during printing
- Demonstrate the black and white printing process
- Identify the benefits of orthochromatic, RC, and variable contrast paper
- Identify the colors of safelights used for black and white printing with their benefits/problems on film
- Identify problems which occur on prints during set up (print trouble shooting)

## **STANDARD 7 Chemical Processing Procedures for Black and White Film**

**Score:**

- Identify the function and safe handling of each black and white paper developing chemical
- Identify the order or sequence for developing black and white photographic paper
- Demonstrate the efficient cutting of photographic paper



- Identify and troubleshoot problems occurring during the print developing sequence with:
  - Time
  - Light
  - Chemical
  - Washing
  - Drying

**STANDARD 8 How to Finish Prints**

**Score:**

- Demonstrate:
  - Retouching
  - Dry mounting
  - Matting

**STANDARD 9 Ethics and Legal Issues**

**Score:**

- Understand and demonstrate *Legal Use* related to copyright laws and legal issues related to photography

**PERFORMANCE STANDARD AVERAGE SCORE:**





## Film Photography, Basic Vocabulary

### ACETIC ACID: (STOP)

The chemical used in stop bath to halt development and neutralize the developer. A two percent solution is generally used with negatives and prints. It is also called glacial acetic acid.

### AGITATION:

The rocking motion used during processing to keep fresh chemicals in contact with the film.

### ANGLE OF VIEW:

The largest angle of light rays passing through the lens that will form an image of acceptable quality on the film.

### APERTURE:

The opening in the camera lens that regulates the amount of light reaching the film. The aperture may be fixed in size or adjusted by a diaphragm.

### BACK LIGHT:

Lighting coming from behind the subject towards the camera lens. This lighting is used to emphasize shape and create silhouettes.

### BELLOWS:

Light-tight expandable folding sleeve used to join the lens to the camera body. Also included in an enlarger. One type is used on large format cameras, providing adjustable lens-to-image distances. A second type is used for macro-photography.

### BOUNCE FLASH:

The aiming of a flash unit at a wall or ceiling to reflect light onto a subject. This avoids harsh shadows that result from pointing the flash directly at the subject.

### BURNING-IN:

A technique used in printing to add more exposure to a small area of the print.

### CAMERA:

A photographic device in which film can be exposed to yield a photograph.

### CASSETTE:

A metal or plastic container for 35 mm film. Film is loaded off a bulk roll.

### CLOSE-UP:

The area of photography recording subjects 1/10 life-size to life-size. Common subjects include flowers, stamps, and coins.

### COLOR:

Synonym for hue.



### COMPOSITION:

The intentional arrangement of different elements in the set-up of a photograph.

### CONTACT PRINT:

An actual-size print of a negative. It is made by placing the negative in tight contact with the photographic paper and exposing it to light.

### CONTACT PRINTER:

A device used to hold negatives in place while making contact prints. Aids alignment of negatives on top of photographic paper.

### CONTRAST:

The visual difference in density (blackness) between the light and dark areas on a print or negative. Contrast can also refer to the relationship or interaction between the elements of a photograph.

### CROPPING:

The elimination of undesirable areas around the subject while printing.

### DARKROOM:

A special room sealed off from light. This light-tight area is used to load exposed film or print photographs.

### DENSITY:

The amount of silver left on film after exposure and development. Noted by light or dark areas on the negative or print.

### DEPTH OF FIELD:

The range of distance in which everything appears in acceptable focus.

### DEVELOPER:

A chemical that causes light-struck silver particles (latent images) to form a visible image.

### DEVELOPING TANK:

A light-tight container that holds film and solutions during processing. A light baffle allows the addition and removal of chemicals and water during development.

### DILUTION:

The watering down of a chemical to a desired concentration (mixture).

### DODGING:

A technique used while printing. It is a method of holding back light from certain areas during exposure.

### DRY MOUNTING TISSUE:

A heat sensitive material that binds a print to a mounting board.

**EASEL:**

A device for holding a sheet of photographic paper under the enlarger while printing. This device usually allows for various sizes of pictures

**ELECTRONIC FLASH:**

A light source produced by a high-voltage discharge in a gas filled tube. The tube can produce thousands of flashes. It is sometimes called a strobe.

**ELEMENTS OF DESIGN:**

The smallest concepts of design which include; Line, Shape, Form, Texture, Pattern, Contrast and Color.

**EMULSION:**

The light-sensitive layer of photographic material. It consists of silver halide crystals suspended in gelatin.

**ENLARGING:**

The process of printing a picture while using an enlarger. It is sometimes referred to as projection printing.

**ENLARGEMENT:**

A print that is larger than the original image on the film.

**ENLARGER:**

An optical device used to make an enlargement. It has adjustable focus and height adjustment to make various sizes of prints.

**EXPOSED FILM:**

Film that has been struck by light and has a latent image formed on it.

**FILL-IN-FLASH:**

Additional light by electronic flash or flashbulb to supplement natural light. Dark shadow areas will be lightened.

**FILM:**

A transparent, flexible base of cellulose coated with a light-sensitized emulsion.

**FILTERS:**

Transparent optical devices which alter the quality of light passing through them. Usually a specific part of light is blocked.

**FIXER:**

An acidic chemical which dissolves away the undeveloped silver halide crystals on film or photographic paper. The emulsion becomes stabilized.



### FRONT LIGHTING:

The light source is located behind the photographer and is situated directly onto the subject.

### F-NUMBER:

The resulting number when the focal length of a lens is divided by the diameter of the aperture. The sequence of numbers represents of various openings between the maximum and minimum settings. F-numbers are actually fractions, so the large numbers allow less light to pass.

### FOCAL LENGTH:

The distance between the optical center of a lens and the focal plane when the lens is focused at infinity. The greater the focal length, the smaller the angle of view.

### FOCAL PLANE:

The plane in the camera where the film's surface is positioned.

### FOCAL PLANE SHUTTER:

A camera's shutter system consisting of sliding curtains. It is positioned slightly in front of the focal plane.

### F-STOP:

The marking on the ring or dial that controls the diaphragm. It is an indication of the amount of light passing through the aperture. A small f-stop, such as  $f/16$ , admits little light. The F denotes fraction so the larger the denominator the smaller the opening.

### FOGGING:

The process of exposing the film or paper's emulsion, usually from unwanted light sources. This process causes emulsions to turn gray or black and reduces contrast.

### FORM:

An element of design which gives a third dimension of depth to a subject. This element is usually created by shadow in a photograph.

### FORMAT:

Picture layout referring to horizontal (landscape) or vertical (portrait). Also refers to film width in camera descriptions.

### FORTY-FIVE DEGREE LIGHTING:

The lighting source is located forty-five degrees in relationship to the camera with the subject being the apex of the angle.

### GELATIN:

A transparent material which forms the film's emulsion. Silver halides are embedded in it to make it light sensitive.

### GRAIN:

Clumps of developed silver halide on film or print paper.

**HEAD ROOM:**

Space above the subject in a photograph.

**HYPO:**

A synonym for fixer.

**HYPO CHECK:**

A chemical test for fixer. A white chemical formation indicates that the fixer is exhausted and must be replaced.

**HYPO CLEARING AGENT:**

A chemical that rapidly removes hypo (fixer) from a photographic emulsion. It greatly reduced wash time for film and paper.

**INCIDENT LIGHT: (Ambient)**

The light falling on a subject or surface.

**INDICATOR STOP BATH:**

A stop bath that is specially colored yellow or orange. Exhausted stop bath turns blue to indicate the need for replacement.

**ISO:**

System of rating the emulsion speed of film, established by the International Standards Organization.

**LATENT IMAGE:**

The invisible image formed on photographic emulsions by the reaction of light upon silver crystals. Chemicals in the developer convert this image into a visible image.

**LENS:**

A transparent object that has a least one curved surface. Used to focus light on film.

**LIGHT METER:**

A device to measure light for a correct exposure. It can be either built into the camera or hand-held. It may be powered by a battery or chemical reaction.

**LINE:**

An element of design. This element creates the outline of an object, provides eye direction, emotion and weight to a photograph.

**MAT BOARD:**

The material on which a print is mounted.

**MOUNTING PRESS:**

A press used to apply heat to a large flat surface. Melting of heat sensitive glue joins the print to a mat board.

**NEGATIVE:**

Image in which dark tones are recorded light and light tones are dark. Complementary colors of the subject are recorded in a color negative.

**NEGATIVE CARRIER:**

A pair of metal plates with a “window” in them to hold a negative when it is in the enlarger.

**NORMAL LENS:**

A lens that produces an image approximately equal to the size and angle seen by the eye.

**NOSE ROOM:**

The distance in a photograph in front of the subject.

**OPEN SHADE:**

Lighting created from reflected open light sources without a direct light.

**PATTERN:**

The repetition of a shape, form, or line.

**PAPER SAFE:**

A metal or plastic light-tight container that holds photographic paper. It can be opened only under a safelight to remove sheets for printing.

**PARALLAX:**

The difference in images seen by the camera’s viewing system and the lens. It is a problem only at close distances.

**PINHOLE CAMERA:**

A camera without an optical lens. Light passes through a tiny hole to form an image on film.

**POLARIZING FILTER:**

A transparent filter which allows light to pass in a single plane. Reflections are reduced and the sky darkens when the filter is rotated.

**PORTRAIT:**

A photograph of a person, usually a head and shoulders shot.

**POSITIVE IMAGE:**

Image in which the dark tones correspond to the dark tones in a subject and light tones correspond to light tones. A positive color image corresponds to the correct colors of the subject.

**PRINT:**

A positive image formed by projecting a negative onto photographic paper and processing the exposed paper in chemicals.

**PRINT PAPER:**

Photographic paper used to make a positive image from a negative.

**PRINTING:**

The process of transforming a negative into a positive image.

**PROCESSING:**

The series of steps necessary to convert a latent image on film or photo paper into a visible image.

**RANGEFINDER CAMERA:**

A camera with an optical device for measuring distance. It is coupled to the lens for focusing.

**RAPID FIXER:**

Fixer that will complete fixing of a negative or print in reduced time.

**RC PAPER:**

Resin-coated paper. A print paper coated with plastic to prevent the base from absorbing chemicals and water during processing. It can be washed and dried rapidly.

**REFLECTOR:**

A sheet of white material used to reflect light into a shadowed area. Also the metallic cone behind a flashbulb or floodlight to throw maximum light.

**REFRACTION:**

The bending of a light ray passing from one medium to another. Air to glass is an example.

**RESOLUTION:**

The ability to distinguish between objects that are very close together.

**SAFELIGHT:**

A special darkroom light that does not affect certain photographic materials.

**SHAPE:**

An element of design which is only two dimensional having only height and width.

**SHUTTER:**

A mechanically or electronically controlled device that regulates the length of time light is allowed into the camera for film exposure.

**SIDE LIGHTING:**

Lighting source is at 90 degrees to the camera with the subject being the point of axis point.

**SILVER HALIDE CRYSTALS:**

Light-sensitive crystals found in photographic emulsions.

**SLIDE: (TRANSPARENCY)**

Section of film which, when processed, shows the finished picture when held up to light. It is a positive transparency. It can be projected in a slide projector.

**SLR CAMERA:**

Single Lens Reflex camera. The viewing system allows the user to see exactly what the lens sees.

**SPLIT IMAGE:**

A focusing method in both rangefinders and many SLR cameras. An out-of-focus image will appear divided. Correct focus results in an image which is aligned.

**SQUEEGEE:**

A rubber wiper, similar to a windshield wiper, for removing excess water from prints.

**STOP BATH:**

An acidic chemical that halts the developing process. It neutralizes the alkaline (base) developer before fixing.

**STOPPING DOWN:**

Reducing the lens aperture.

**STUDIO:**

A workroom set up for specialized photography. It may contain lights, reflectors, and backgrounds.

**SUBJECT:**

The person or object of interest being photographed.

**TACKING IRON:**

A special lightweight iron used to attach dry mounting tissue to a print and mounting board.

**TAKE-UP SPOOL:**

A second spool built into or placed in the camera to take up the exposed film.

**TELEPHOTO LENS:**

A lens that works like a telescope. A larger image results on the film.

**TEXTURE:**

An element of design which visually indicates the roughness or smoothness of an object.

**TLR CAMERA:**

Twin Lens Reflex camera. A camera which uses a secondary lens system for viewing. A mirror reflects the image from the viewing lens to a ground glass screen.

**TRANSPARENCY:**

A positive image that can be viewed when held up to a light or projected. Also called a slide.

**TRIPOD:**

A camera support with three legs.





### TTL METERING:

Through the Lens metering. An exposure meter built into the camera which measures reflected light from the subject passing through the camera lens.

### UV FILTER:

A filter blocking ultraviolet light. Also used to protect a lens from becoming scratched.

### VARIABLE CONTRAST FILTERS:

Special filters that provide an entire range of contrast when used with variable contrast paper.

### VARIABLE CONTRAST PAPER:

Photographic paper which provides a range of contrast while printing with the use of filters.

### VIEW CAMERA:

A large format studio camera. The front and back of the camera are attached by a bellows. The screen is composed and focused on a ground glass screen before inserting the film.

### VIEWFINDER CAMERA:

A camera with a window showing the approximate scene that will appear in the picture.

### WETTING AGENT:

A chemical used after washing negatives. Surface tension is lowered, resulting in even drying without water spots.

### WIDE ANGLE LENS:

A lens having a large angle of view and short focal length. It is good for scenes and groups of people.

### ZOOM LENS:

A lens with multiple focal lengths. Focusing remains unchanged while altering the focal length.