

ARCHAEOLOGICAL PHOTOGRAPHY

PURPOSE

Archaeological Photography provides hands-on instruction in practical applications of photography for archaeology in the field and in the studio. The goals are to increase knowledge of participants regarding the needs of the archaeologist, to illustrate how to best achieve the results desired both in the field and studio, and to assist participants in the creation of publication-quality images.

OBJECTIVES

At the completion of this course, the student should be able to:

1. Identify and utilize available lighting conditions to best photograph architectural features, artifacts in situ, and stratigraphy.
2. Optimize existing conditions of light using a minimum of equipment in the field (shade and fill-flash).
3. Utilize available light and flood lights in the studio.
4. Identify and use different methods of magnification of small objects.
5. Define and use technical language of digital photography.
6. Decide on the best equipment for each situation in the field and in the studio.
7. Create photographs which document archaeological features and artifacts for publication.

METHOD OF INSTRUCTION

Five 2 hour lectures with examples of problems and solutions followed by hands-on experiences which provide opportunities for participants to utilize all information gathered in lecture.

EQUIPMENT

35mm camera (SLR preferred), B&W film (TMAX 100 recommended) and color slide film (Kodachrome 64 recommended). Useful if available: line level or small level flash, tripod, 35mm lens, 55 micro lens, or macro diopters, yellow filter, 85A filter, 80B filter, polarizing filter, cable release.

COURSE OUTLINE

A. Principles of light

1. Small source
 - a. Sun, flood light, direct flash, household lamp.
 - b. Directional
 - c. Dark hard-edged shadows
 - d. Complicated pictures
 - e. Small and bright lights
 - f. Distinct area between lit area and shadow
2. Medium Source
 - a. Window with no direct sun hitting object, diffused flood lights
 - b. Source approximately as large as it is far from the subject
 - c. Soft-edged shadow area
 - d. Equal emphasis to the highlight, lit area and shadow
3. Large Source
 - a. Overcast sky, bounced flash, full shade
 - b. Source close to subject, surrounds the object with light
 - c. Light from many directions
 - d. Simplifies subject
 - e. Highlights spread out, soft-edged shadows
4. Direction of light
 - a. Top
 - b. Side
 - c. Three quarter
 - d. Front
 - e. Back

B. Depth of field

1. Aperture and depth of field (optimum settings)
2. Schliemflug principle (focus one-third in on subject)
3. Close-up photography and aperture
4. Landscape and depth of field

C. The roles and responsibilities of the archaeological photographer

1. To effectively document the excavation and the objects recovered from the excavation in order to assist the archaeological team with their research
2. To produce publication quality images in both field and lab
3. To keep accurate records of all photographs

D. Field Photography

1. Purposes of photography in the field
 - a. Record progression of excavation from beginning to end
 - b. Provide evidence of information that will be lost through the excavation process
 - c. Document features and artifacts with publishable quality photographs
 - d. Illustrate methods of excavation utilized
 - e. Illustrate artifacts in situ
 - f. Provide a memory of the excavation for team members

2. Excavation
 - a. Before
 - panoramic views
 - aerial views
 - b. During
 - excavation in progress
 - people working (avoid backs of heads)
 - aerial views
 - c. After
 - panoramic views
 - close-ups of features
 - aerial views
3. Equipment and film
 - a. Camera and lenses
 - 35mm single lens reflex cameras
 - 55mm, 35mm, 105mm or 85mm, or zoom lenses
 - b. Color film (Kodachrome 64)
 - c. B&W film (TMAX 100)
 - d. Tarps and reflectors
 - e. Ladder
 - f. Scales, north arrow, letter board
 - g. Photo log
 - h. Tripod
 - i. Shutter release
 - j. Flash and light meter
4. Features, stratigraphy, and artifacts in-situ
 - a. Perspective (levelness of camera with respect to feature)
 - b. Lighting
 - time of day to photo
 - fill flash for smaller areas
 - adding shade
 - using a reflector to bounce light into an area
 - c. Context
 - d. Metering
 - spot meters vs. averaging meters
 - basic daylight exposure (in case meter stops working)
 - gray card
 - e. Depth of field
 - f. Recording data
 - date
 - roll number
 - frame number
 - subject of photograph
 - direction facing
 - comments about time of day, who is in photograph, etc.
5. NAGPRA limitations on photography of burials, cremations, human remains, and associated objects.

COURSE OUTLINE (continued)

E. Studio Photography

1. Lighting
 - a. Types of lights (floods, strobes, daylight)
 - b. Positioning lights (bounced, reflectors, diffusers)
2. Documentation (record keeping and labeling)
3. Perspectives and depth of field
4. Film and color balancing filters (80A)
5. Color bars and scales
 - a. Purpose of scale and color bar
 - b. Sizes to use
 - c. Placement in frame in relation to object
6. Backgrounds
7. Shadowless photographs
 - a. Raised glass method
 - b. Dark background (black velvet)
 - c. Light box method
8. Magnification
 - a. Macro lenses (optimum aperture)
 - b. Diopters
 - c. Teleconverters
 - d. Bellows
9. Props (what to use, what to avoid using)

F. Digital Photography

1. Terms
 - a. Jpeg
 - b. Tif
 - c. Bitmap
 - d. Pixels
 - e. Pixelate
 - f. Resolution
 - g. DPI
 - h. RGB
2. Equipment and software
3. Pros
4. Cons

G. Assessments/critique of photographs

1. Lighting
2. Composition
3. Details (scales, north arrow, cleanliness, etc.)

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