

## FIELD CREW MEMBER I

### PURPOSE

The purpose of this course is to provide the basic academic and practical skills needed to give the avocational archaeologist the ability to participate in excavation projects of the Arizona Archaeological Society (AAS), and to give needed assistance to the professional community as a volunteer, or upon request, under the direction of a qualified archaeologist. It is understood that completion of this course in no way indicates the students are authorized to initiate or develop archaeological field work projects on their own.

The student receives a minimum of 30 hours of classroom instruction and 40 hours of field work. Further, a written report of all field work, including copies of field forms, must be completed and provided the instructor for evaluation.

### OBJECTIVES

At the completion of this course, the student is able to:

1. Define the basic vocabulary of field excavation.
2. Determine the purpose of excavation and the necessity of the process, recognizing that each site is unique and excavation is a destructive process. Excavations should never be undertaken without specific purposes. (See Tab 27: Excavation Criteria)
3. Name and define the various kinds of archaeological sites known to exist.
4. List major types of features and explain various ways of excavating them to maximize data collection.
5. Determine the kinds of tools used by the archaeologist and the appropriate conditions to use them.
6. Explain how a site is mapped from an established grid and all work is recorded.
7. Determine the necessity of keeping horizontal and vertical data control.
8. Indicate the use of photography and its importance in data collection.
9. Describe the use of special techniques and methodologies used by archaeologists such as pollen analysis, flotation, and radiocarbon, archaeomagnetic, and dendrochronology dating methods.
10. Interpret the meaning of artifacts and features in context, including disturbance, multiple components, previous excavations, etc.

11. Interpret the implication of spatial relationships.

OBJECTIVES (continued)

12. Understand the basic federal and state requirements for conducting cultural resources investigations, including consulting with Native Americans and others

COURSE OUTLINE

A. List of basic vocabulary items (minimum - more may be added)

absolute dating	mortar
alidade	mound
analogy	natural level
arbitrary level	palynologist
artifact	pestle
assemblage	petroglyph
awl	pictograph
Brunton compass	pithouse
cist	profile
connectivity	provenience
context	projectile point
contract archaeology	rebar
culture	relative dating
dig	sampling
flotation	screen
focus	sherd
grid	strata
horizon	superposition
kiva	survey
lithic	test pit
locus	theodolite
mano	transit
metate	trench
midden	

B. Methods of and/or alternatives to excavation

1. Reasons for excavation
2. Principles of excavation
3. Demands of excavation
  - a. Good physical condition
  - b. Proper clothing and safety precautions, including protection from the sun.
4. Organizational aspects of excavation

C. Types of sites

1. Kinds of sites
  - a. Habitation
  - b. Midden
  - c. Quarry
  - d. Kill.
  - e. Trading center
  - f. Ceremonial
  - g. Burial
  - h. Surface scatter
  - i. Rock art
  - j. Multi-component
  - k. Single component
  - l. Stratified
  - m. Non-stratified
  - n. Plowzone
2. Composition of sites

3. Judgment of site content
    - a. Surface finds
    - b. Size and configuration of the site
    - c. Judicious use of sites
    - d. Various other techniques
  4. Variable preservation of data
- D. Major features and alternative methods of excavation
- |                |                    |
|----------------|--------------------|
| 1. Bounded     | 7. Trash mound     |
| 2. Non-bounded | 8. Trash pit       |
| 3. House floor | 9. Cremation       |
| 4. Plaza       | 10. Inhumation     |
| 5. Kiva        | 11. Pit Structures |
| 6. Hearth      |                    |
- E. Excavation tools
1. Power tools
 

a. Back hoe, front end loader	d. Mechanical screens
b. Bulldozer	e. Magnetometer
c. Auger	f. Sonar
  2. Non-power tools
 

a. Shovels (various kinds)	j. Small brushes
b. Pick	k. Brooms (various kinds)
c. Screens	l. Pick-mattock
d. Trowels	m. Meter stick
e. Eye protection	n. String and cord
f. Protective mask	o. Bags (various kinds)
g. Buckets	p. Stakes and pins
h. Dust pans	q. 3 meter tape
i. Containers (various kinds and sizes)	
- F. Mapping and gridding
1. Mapping techniques, including use of electronic methods, GPS and difference between NAD 27 and 83)
  2. Establishment of N-S, E-W lines
  3. Establishment of a permanent datum point
  4. Establishment of secondary datum points
  5. Development of an expanding grid system
  6. Use of 1, 2, 3, 4, and 5 above by the field worker to control data
- G. Site record keeping
1. General note taking
  2. Review of mapping and gridding
  3. Location of archaeological area to be excavated
  4. Precise methods vary from site to site
  5. Necessity for accurate records
    - a. Vertical data
    - b. Horizontal data
    - c. Specimen number control
  6. Keep each work area neat and clean (messy digs lead to messy recording)
  7. Teamwork and coordination between staff and crew
    - a. No such thing as a "dumb" question or observation

b. Talk with each other about what you see and are doing

G. Site record keeping (continued)

8. Assign specific responsibility for record keeping
9. Method of bag (specimen) control.

H. Field photography

1. Types of cameras
2. Types of films
3. Lighting conditions
4. Exposure settings
5. Scale and direction indicators
6. Record and non-record photography
7. Photographic distortion
  - a. Large scale objects
  - b. Small scale objects
8. Aerial photography

I. Special excavation techniques

1. Burials
  - a. General rules
  - b. Determining treatment and disposition under NAGPRA & State burial laws.
  - c. Documentation
  - d. Treatment of bone
  - e. Removal from soil
  - f. Field packing
2. Flotation samples
  - a. Collecting of specimen in the field
  - b. Work in field lab
    - Frothing
    - Separation of seeds
    - Soil sifting
    - Water separation
3. Paleomagnetic dating
  - a. Remove all iron from the vicinity
  - b. Cut sample into units
  - c. Photograph sample in situ
  - d. Encase sample in plaster in situ
  - e. Sample must be leveled as well as true north and magnetic north determined
  - f. Records of the sample
4. Palynology
  - a. Collection of the sample
  - b. Type of sample
  - c. Preservation of the sample
  - d. Storage of the sample
5. Radiocarbon
  - a. Use a clean trowel and other tools
  - b. Indicate if dry or wet (mold growth contamination)
  - c. Place sample in polyethylene bag or fresh aluminum foil if solid enough
  - d. Label the sample with needed data
  - e. Fill out necessary records

f. Storage and transportation of sample

I. Special Excavation Techniques ( continued)

6. Soil sampling
  - a. Use of Munsell Soil Color Charts
  - b. Chemical aspects of the soil
  - c. Composition
    - Natural soils
    - Human alteration
  - d. Soil descriptions
  - e. Purpose of soil study
7. Dendrochronology
  - a. Well-defined growth rings
  - b. Collection procedures similar to radiocarbon
  - c. Check to see if preservation is needed - if it is, clear the system with your field supervisor

J. Interpretation of artifacts and features

1. Analysis techniques for field use
2. Behavioral inference
3. Classification systems (types)
  - a. Convenient
  - b. Cultural
  - c. Functional
4. Description techniques
5. Determination of use
  - a. Context
  - b. Ethnographic analogy
  - c. Replicative experiments
6. Cultural associations

K. Interpretation of spatial arrangement

1. Effect of environment
2. Arrangement of space
  - a. Occupied
  - b. Non-occupied
3. Spatial context
4. Reconstruction of spatial arrangement
5. Development of settlement patterns
  - a. Internal
  - b. External

See Page 6 for REFERENCES.



## REFERENCES

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\* (A) In Phoenix Chapter Archives.