

# Teaching Archaeology in the 21st Century: Thoughts on Undergraduate Education

*Hester A. Davis, Jeffrey H. Altschul, Judith Bense, Elizabeth M. Brumfiel, Shereen Lerner, James J. Miller, Vincas P. Steponaitis, and Joe Watkins*

*Editor's note: Paper prepared by the Undergraduate Education Work Group (Hester A. Davis, chair) at the SAA Workshop on "Teaching Archaeology in the 21st Century" held at Wakulla Springs, Florida, February 5–8, 1998, George S. Smith and Susan J. Bender, workshop cochairs. See SAA Bulletin 16(5): 11 for a discussion of the workshop.*

**D**uring the past two decades archaeological practice has been transformed by internal and external forces, requiring archaeologists to develop new skills and ethical principles for the practice of archaeology in all its applications. To prepare archaeologists for the challenges of the 21st century, it is critical that these ethical principles be infused into the undergraduate curriculum, enhanced at the graduate level, and continued as part of postgraduate education and professional development.

## Principles for a Renewed Archaeology Curriculum

The following principles reflect SAA's Principles of Archaeological Ethics:

- (1) Foster stewardship by making explicit the proposition that archaeological resources are nonrenewable and finite;
- (2) Foster understanding that archaeological remains are endowed with meaning and that archaeologists are not the sole proprietors or arbitrators of that meaning because there are diverse interests in the past that archaeologists study. Archaeologists, therefore, share their knowledge with many diverse audiences and engage these audiences in defining the meaning and direction of their projects;
- (3) Recognize diverse interests in the past;
- (4) Promote awareness of the social relevance of archaeological data and its interpretations;
- (5) Infuse the curriculum with professional ethics and values that frame archaeological practice;
- (6) Develop fundamental liberal arts skills in written and oral communication, and computer literacy; and
- (7) Develop fundamental disciplinary skills in fieldwork and laboratory analysis and promote effective learning via the incorporation of problem solving, either through case studies or internships.

## Stewardship

In considering archaeological resources, students need to understand the nonrenewable nature of archaeological sites and associated material. The information content of such material and the value of the data in interpreting and understanding human behavior should be emphasized. Once the information has been removed from the ground—whether through archaeological exca-

vation or as a result of looting, development, erosion, or other processes—the site itself is gone. When archaeological investigations are conducted, the information from the ground is transformed into archaeological data in the form of collections, records, and reports that are used to interpret and explain the past.

As part of this discussion, the damage caused by looting sites and trafficking artifacts should be presented in the context of the loss of information and, thus, the ability to interpret the data. Examples of looted sites such as Slack Farms or the impact of vandalism on many sites in the Southwest can be discussed. Students can evaluate the resulting loss of information and its impact on learning about these sites and their inhabitants.

The conservation ethic—how the past can be preserved—must be explained. Once students understand the fragile nature and value of the resources, they must examine methods of the wise use of resources, or conservation. Conservation can include stabilizing an archaeological site, preserving it in place, excavating it, or promoting public understanding of its information content through site development and interpretation. Examples of successfully conserved sites can be discussed (e.g., developed sites, such as Cahokia or Mesa Verde; ongoing site interpretation, such as at Alexandria; site protection through the Site Stewards of Arizona).

It also should be noted that recent trends toward conservation have led to the hiring of archaeologists as cultural resource managers. This segment of the profession, comprising nearly 50 percent of employed archaeologists, emphasizes stewardship of the archaeological record. As part of this responsibility, archaeologists now work with many different publics to communicate the value and importance of archaeological data. In this context, it is important to discuss—in more advanced courses—preservation laws such as the National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), and Native American Graves Protection and Repatriation Act (NAGPRA).

## Diverse Interests

In presenting archaeology courses to undergraduate students, the instructor should make students aware that archaeologists no longer have exclusive rights to the past, but that various publics have a stake in it. No one truly "owns" the past; rather, we all share



common roots in a past that bears different fruits. Diverse groups—descendant communities; state, local, and federal agencies; and others (salvers, “metal detectors”)—compete for and have vested interests in the nonrenewable resources of the past. Students also must be informed of the existent preservation laws that stress the protection of our common heritage and that development of partnerships with these diverse groups can enhance the protection. By examining the ways that the products of the past have been used to further political and national interests, students also can be made aware of the social implications of our discipline. By recognizing that different views arise from common roots, we can understand our relationships, extend influence beyond our individual reach, and unite to attain common goals.

## Social Relevance

If we are to justify the existence of archaeology as a discipline and gain public interest and support, then we must effectively show how archaeology benefits society. In the past, archaeologists considered these benefits to be self-evident. Teachers simply presented the “substantive findings” of the field and assumed that students would intuitively see its value. But this complacent approach can no longer dominate the way archaeology is taught. Given the existence of diverse interests in the past (some of which may prefer to see archaeology disappear), those who teach archaeology in the 21st century must convey the importance of archaeology to their students.

One method is to highlight ways in which the past can be used to help us think productively about the present and future. As we teach archaeology, particularly in introductory and large-enrollment courses, it is essential to show students how archaeology may be relevant to today’s issues. Let’s call this approach “Lessons from the Past,” and list some examples:

- Discuss the role of environment on the development of past societies, including the effects of environmental degradation
- Discuss the history and role of warfare in relation to politics, economy, and other historical circumstances
- Discuss the history of cities and urban life, and the many forms these took in the past
- Discuss how archaeological techniques can be applied directly in matters of public policy and the law, such as in the case of forensic studies (Bosnia) and the University of Arizona’s “Garbage Project”
- Discuss past systems of social inequality and draw connections to and contrasts with the present
- Discuss the history of human health and disease.

## Professional Ethics and Values

The articulation of ethical principles and core values are a sign of growth and maturation of the profession. The eight SAA Principles of Archaeological Practice are fundamental to how archaeologists conduct themselves regarding the resources, data, colleagues, and the public. Linking these principles to specific lecture topics or presenting them as individual lectures will provide students with a foundation for establishing their own interests in the study of cultural resources. The Register of Professional Archaeologists (ROPA) Code of Ethics and Standards of Research Performance provides a more detailed set of ethical behaviors

relative to the specific practice of research. These statements provide a direction and foundation for the practice of field archaeology and its consequences, and as such, should be incorporated into presentations in upper-division classes.

## Communication

Archaeology depends on the understanding and support of the public. For this to occur, archaeologists must communicate their goals, results, and recommendations clearly and effectively. Archaeology education must incorporate frequent training and practice in logical thinking, and in written and oral presentation. For any nonspecialist audience, jargon inhibits understanding and makes it less likely that archaeological goals will be appreciated and supported. An archaeologist must be able to make a clear and convincing argument, based on the analysis and interpretation of relevant information, in public and professional contexts. Development of effective communication skills also includes mastery of standard tools like computers and the Internet as well as the ability to interact cooperatively and productively with others involved in a project.

## Basic Archaeological Skills

Students planning a career in archaeology must acquire a set of basic skills. At a conceptual level, these involve the ability to make pertinent observations of the archaeological record, describe and record these observations, and draw appropriate inferences. Requisite skills include survey and cartography (e.g., map making and reading), stratigraphy (e.g., draw and accurately interpret a soil profile), archaeological methods (e.g., complete field and laboratory forms), database management (e.g., create and use data tables), and technical writing (e.g., write artifact, feature, and site descriptions).

## Real-World Problem Solving

One of the most difficult things for undergraduates to do is to merge theory (classroom experience) with practice (real world experience). Helping students to make this transition in the context of course work often drives home the main points and demonstrates the applicability of archaeology to their lives. Fundamental to “real-world problem solving” is flexibility and a solid grounding in archaeological concepts.

Students can be exposed to problem solving through classroom

*The Society for American Archaeology’s Task Force on Curriculum is looking for institutional collaborators in a granting initiative focused on redesign of introductory-level courses in archaeology. Faculty teams from each participating institution will collaborate on the design of model courses that respond to curricular concerns identified by the Wakulla Springs Workshop on “Teaching Archaeology in the 21st Century” (see November 1998 SAA Bulletin [16(5): 11–13]). If your department is interested in such collaboration or would like further information, contact Susan J. Bender, Associate Dean of the Faculty, Skidmore College, Saratoga Springs, NY 12866, email sbender@skidmore.edu.*

*Continued on page 20*



*Continued from page 19—Undergraduate Education*

examples and observations of real situations where they can see for themselves that archaeology is only one of many competing interests to be reconciled to successfully complete a project. Having students attend a descendant population meeting where archaeology is discussed will be an eye-opener. As teachers of archaeology, it is our responsibility to demonstrate how business, politics, and local bureaucracy works, and to foster an understanding of preservation laws and regulations. Outside the academy, archaeology is usually done as part of a planning process or as a solution to a construction or development problem when construction planning has been ignored. One way to expose students to this process is to have them attend city or county commission meetings or invite urban planners or politicians to lecture to the class about the political process.

### Recommendations for the Undergraduate Curriculum: Embedding the Principles in Existing Curricula

Curricula can be revised effectively and efficiently simply by embedding the principles in existing course structures. To assist in planning revisions of this type, standard undergraduate courses and their audiences are identified and matched below. This information is then summarized in Table 1, along with information on which ethical principles can or should be introduced in certain course contexts. Suggestions follow for specific topics appropriate for teaching each principle to particular target audiences.

### Suggested Topics:

#### Stewardship

Looters and Trafficking  
Conservation Ethic  
Non-Renewable Resource

#### Diverse Interests

Different Views of Past  
Partnerships (collaboration with many groups)  
Public Involvement (reporting results)  
Politics Uses of the Past (nation building)

#### Social Relevance (lessons from the past)

Garbage  
Population Dynamics  
Environmental History  
Systems of Social Inequality  
Warfare  
Health/Disease

#### Ethics and Values

Principles of Archaeological Ethics  
Preservation Law

#### Communication

Clear writing (implied clear thinking)  
Clear speaking (implied clear thinking)  
Public Speaking  
Computer Literacy

*Continued on page 22*

Table 1. Cross-tabulation of Standard Undergraduate Courses, Principles Appropriate for Introduction in Each Course, and Target Student Audiences.

	Stewardship	Diverse Interests	Social Relevance	Ethics and Values	Communication	Basic Arch. Skills	Real-World Problem Solving	Target Students*
Intro. Anthro.	X							1,2
Intro. Courses • Cultural Anthro. • Archaeology • Bioanthropology • Linguistics	X							1,2,3
World Arch.	X	X	X					1,2,3
Area Arch.	X	X	X					1,2,3
Methods and Theory	X	X		X	X	X	X	1,2,3
Principles of Arch.	X	X		X	X		X	2,3
Field School		X		X	X	X	X	3
Lab Methods				X	X	X		3
Internships				X	X	X	X	3

\* (1) Non-majors (1 course); (2) Anthropology Majors (who enter another profession); (3) Archaeology Track Majors (who attend graduate school in archaeology)



*Continued from page 21—Graduate Education*

**Method and Theory.** Graduate students should complete advanced coursework in archaeological method and theory. Students should receive formal training in development of research designs, hypothesis testing, data collection, and so on. This training is intended to provide students with a basis for designing their own research and evaluating the research of colleagues.

**Statistics.** All graduate students in archaeology must develop an understanding of quantitative methods and the use of statistics in archaeological research—basic skills for archaeological research.

**Supervised, Broad-based Field Experience.** It is essential that all graduate students participate in formally supervised field research that teaches the basic skills of mapping, photography, survey, sampling, data recording, and record keeping. Students should be taught the nonrenewable nature of archaeological resources and the destructive nature of archaeological research. Especially important is training in problem-oriented research that selects only those field methods and portions of the archaeological record necessary to solve the problem. It is also encouraged that students be exposed to non-destructive research techniques such as geophysical surveys (e.g. magnetometer, soil resistance meter, soil conductivity meter, ground-penetrating radar).

**Survey Course of Archaeological Sciences.** Students should receive formal instruction in application of non-archaeological sciences to the study of archaeological resources and research problems. Students should receive basic training in a wide range of possible research areas, including but not limited to faunal and floral analysis, soil and stratigraphic analysis, geophysical survey methods, archaeological dating techniques, isotope analysis of human bones, and ceramic compositional analysis.

**Cultural Resource Management and Preservation.** The management and study of archaeological resources as mandated by law and regulations has become a major part of archaeology. Students should be exposed to the contemporary practice of cultural resource management through case studies or internship experience associated with “real-world problem solving.”

### Statement Regarding the Ph.D. Degree

The Ph.D. degree is an advanced graduate degree that recognizes specialized research achievement. We anticipate that doctoral programs will continue to expect additional courses in subjects such as statistics, specialized seminars, and an additional language or research skills. Doctoral programs should be structured to recognize the special expertise in oral and written communication skills required of educators and the directors of research projects. Thus, we envision that the Ph.D. provides for the enhanced training in the aforementioned areas as well as a specific research focus. The Ph.D. must continue to involve production of a doctoral dissertation, which might in some circumstances obviate the need for a master's thesis at an earlier stage of graduate study. ■

*Mark J. Lynott is manager of the Midwest Archeological Center, National Park Service; David G. Anderson is an archaeologist with the Southeast Archeological Center, National Park Service; Glen H. Doran is with the Department of Anthropology at Florida State University; Ricardo J. Elia is with the Archaeology Department at Boston University; Maria Franklin is with the Anthropology Department at the University of Texas at Austin; K. Anne Pyburn is with the Anthropology Department at Indiana University; Joseph Schuldenrein is with Geoarchaeology Research Association; and Dean R. Snow is the chair of the Anthropology Department at Pennsylvania State University.*

*Continued from page 20—Undergraduate Education*

### Basic Archaeological Skills

Observations skill (inferential skills)  
Basic map skills (scales, contours)  
Organize and assess data  
Knowledge of the law  
Description (one step above field description)

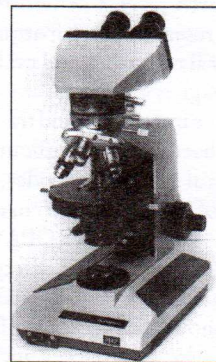
### Real World Problem Solving

Professional Responsibilities and Accountability  
Archaeopolitics (know the players and process)  
Citizenship (civics)  
How business works  
Legal and regulatory (know the rules) ■

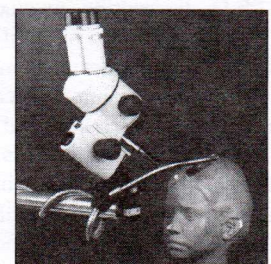
*Hester A. Davis is the Arkansas state archaeologist, Jeffrey H. Altschul is president of Statistical Research, Inc., Judith Bense is chair of the Department of Anthropology at the University of West Florida, Elizabeth M. Brumfiel is with the Anthropology Department at Albion College, Shereen Lerner is on the anthropology faculty at Mesa Community College, James J. Miller is the Florida state archaeologist, Vincas P. Steponaitis is president of SAA and director of the Research Labs at the University of North Carolina, and Joe Watkins is with the Bureau of Indian Affairs.*



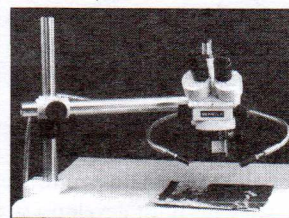
## Micro-Optics Microscopes, Stands, Fiber-Optics and Imaging Equipment



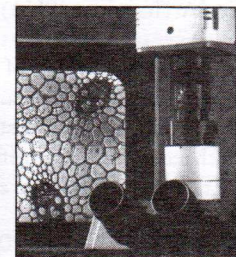
New & Pre-Owned



Custom Fiber-Optics



MEIJ EMZ 5-TR



Video Microscopy &  
Digital Imaging

1-800-776-1771  
www.MICRO-OPTICS.PI.COM