

ANTH 3317 - Rock Art Field Methods

May 28 – June 23, 2019

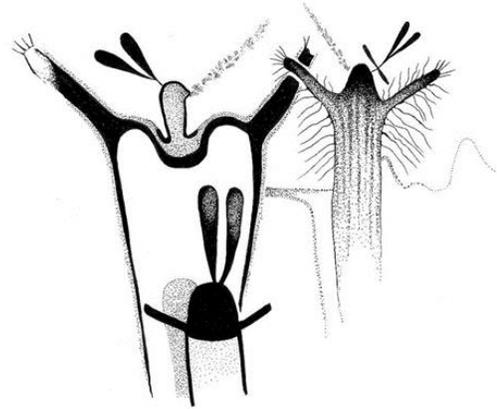
3 hours credit – undergraduate

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Rock Art Field Methods will be taught at Shumla Archaeological Research and Education Center (Shumla), which is located 50 miles west of Del Rio, Texas within the Lower Pecos Canyonlands.

Students in ANTH 3317 must also concurrently enroll in ANTH 3361 (Archaeology Field Methods). Students enrolled in these courses will participate in a unique field school experience in one of the most significant archaeological regions in North America. In addition to well-preserved, deeply stratified deposits, the Lower Pecos houses some of the most complex and important collections of ancient art in the world. Around 4,000 years ago, hunter-gatherer artists began transforming this arid region into a painted landscape.

Students will join Shumla staff archaeologists and Dr. Carolyn Boyd in one of the most intensive rock art documentation projects ever undertaken – The Alexandria Project. The project name harkens back to the Library of Alexandria in Egypt, which burned in 48 BC. Hundreds of scrolls that told of ancient philosophy, botany, astronomy, medicine, mythology, and ritual were lost in that fire. In the Lower Pecos there is a library of equally important information painted on rockshelter and canyon walls. These visual texts communicated Archaic peoples' understanding of the natural and supernatural world, and their place within it. The Alexandria Project is a four-year research and data management plan to fully catalog and digitize this Archaic library of over 300 rock art sites. The core of Shumla's robust documentation methods are state-of-the-art high-resolution photography and iconographic analyses. The data collected through this project provides an unparalleled spatial inventory of Lower Pecos rock art that is informing a rigorous research program.

Researchers at Shumla Archaeological Research and Education Center and Texas State University are breaking the code of these visual texts and demonstrating that much of the imagery is closely related to mythologies of Uto-Aztecan-speaking peoples, including the ancient Aztec and present-day Huichol. This information is rewriting the prehistory of our continent and inciting new research into the origins and tenacity of myth, hunter-gatherer complexity, and cultural interaction spheres.

Course Description:

This course will train students in rock art field methods. They will gain first-hand experience recording rock art sites through photography, field sketches, mapping, and written inventories. Students will generate a visual and written description of the art, which they will use to infer and explain past human behavior.

Students will record rock art sites through Structure from Motion (SfM) photogrammetry, GigaPan photography, figure photography, Decorrelation Stretch (DStretch), digital microscopy, iconographic inventories, and field notes.

In the Shumla lab, students will gain experience processing field data using software programs such as AutopanoGiga, Agisoft, Adobe Lightroom and Photoshop, and Harris Matrix Composer.

Lectures will expose students to methods of interpretation and analysis and to the theoretical underpinnings of cognitive archaeology. Lectures will be provided by the course instructor, Shumla staff, and by archaeologists, chemists, and archaeobotanists specializing in the archaeology of the Lower Pecos, hunting and gathering lifeways, foraging adaptations and other relevant topics.

Course Objectives:

- Students will learn how to establish a research design and data collection protocols.
- Students will learn field methods for recording rock art, including instruction in:
 - Digital photography
 - Structure from Motion (SfM) photogrammetry to produce 3D models
 - GigaPan robotic gimbal system to produce high resolution panoramas
 - DStretch to enhance faded imagery
 - Digital microscopy to analyze mural stratigraphy
 - Creating iconographic inventories
 - Creating sketch maps
 - Completing site forms and field notes on digital tablets
 - GPS tracking and site location
- Students will learn laboratory procedures, record-keeping, cataloging, and records curation for rock art data. They will receive instruction in:
 - Converting GPS data into ArcMap shapefiles for integration into a GIS
 - AutopanoGiga software to process the GigaPan images
 - Exporting files
 - Creating panel/feature maps in ArcGIS from 3D models
 - Agisoft Photoscan to process SfM 3D model
 - Harris Matrix Composer software for managing stratigraphic data

- Students will learn about the chemical analysis of rock art, such as pigment analysis and radiocarbon dating of pictographs.
- Students will learn how to critically evaluate publications in professional journals.
- Students will learn about current theories regarding the meaning and function of rock art.
- Students will become familiar with the foraging adaptation, hunter-gatherer belief systems, and the prehistory of the Lower Pecos region.
- Students will have prepared a detailed field journal for future reference and research ideas.

Course Structure:

The course will be taught at the Shumla campus, Shumla office laboratory, and at archaeological sites in the region. Class time will be split between on-site rock art documentation and data processing in the lab. Weather and site access will dictate, to some degree, the daily schedule.

Required Reading:

Selected articles and book chapters will be assembled into a reading packet and provided in hardcopy at the start of the course. These will also be made available online in advance of the course.

Student Eligibility:

Students must have approval from the course instructor prior to enrollment. Participation in this course also requires that the student be in very good physical condition and be able to hike across and work within rugged terrain in high temperatures. Access to many of the sites will involve steep climbs and descents, boulder-hopping, and hikes through dense, thorny brush.

Course Requirements and Evaluation Methods

Several instruments will be used to assess achievement of the course objectives listed above. Evaluation methods, general proportions, and considerations include:

- Field and Lab Work (30%)
- Project Field Journal (See below) (20%)
- Site Report (See below) (20%)
- Oral Presentation (See below) (20%)
- Participation, Teamwork, Attitude (10%)

Project Field Journal. Each student will be expected to keep a field journal. All entries in the journal should be legible. In addition to providing a good source of data, field journals, if done

correctly, challenge the archaeologist to be more OBSERVANT and to THINK critically. Entries will include:

- 1) Detailed, daily record of activities
- 2) Observations made throughout the day about the rock art, readings, lectures, etc.
- 3) Questions that you would like to find answers to
- 4) Challenges faced during the course and possible solutions
- 5) Potential hypotheses and the reasoning behind the hypotheses
- 6) Ideas for future research

Site Report: Each student will prepare a short Site Report for one of the rock art sites documented during field school. Guidelines and a sample report will be provided. The report will include such things as the location and size of the site, its chronological placement (if known), historical background (if relevant), aims and objectives of work undertaken, the extent of the work conducted, sketch maps, rock art descriptions, artifacts identified, drawings and photographs.

Oral Presentation. Working in teams of 2 to 3, students will be required to make an oral presentation on a designated journal article or book chapter. In the oral presentation, the students will present the material contained in the reading assignment followed by a critical evaluation of the publication. All students will be expected to have read the assignment.

Accommodations:

Students will be staying at Shumla for the duration of the course. Lodging and meals will be provided. Students will stay in the bunkhouse on cots unless they prefer to bring their own tent for more privacy. Shumla facilities include restrooms and showers, kitchen, covered pavilion, office, research library, lab/conference room, and washer/dryer. The bunkhouse has ceiling fans but is not air conditioned.

Supplies:

Students should bring the following items:

Small/medium backpack

Hat with wide brim and bandanna or neckerchief

Sunscreen – a MUST HAVE, the higher the SPF, the better

Chapstick with sunscreen

Camera (highly recommended, but optional)

Sleeping pad

Bedding – sheet and blanket or sleeping bag, pillow optional

Bath towel and washcloth

Hand and body lotion
Personal toiletries
Bag for dirty clothes, etc.
Insect repellent
Poncho or raincoat
Long pants and long-sleeved shirts/Shorts and short sleeve shirts
Sturdy boots for hiking are MANDATORY; comfortable shoes for around camp, water shoes for the river (not flip flops, they do not stay on your feet in rushing water)
Lightweight jacket
Sunglasses
Flashlight (essential)
Binoculars (highly recommended, but optional)

Students are NOT allowed to bring:

Illegal drugs and controlled substances
Firearms
Animals/pets

Possession of any of these items will not be tolerated and will lead to immediate expulsion and loss of course credit.

NOTE! Smoking in the tents or camp area is not permitted. The Shumla campus and surrounding areas are under a fire ban, so extreme caution must always be used.

NOTE! The abuse of alcohol will lead to immediate expulsion and loss of course credit.