Laboratory Methods in Archaeology
ANTH BC2012

2018 Laboratory Program in New Mexico
Barnard College, Columbia University

July 5 – Aug 2, 2018

Instructors
• Dr. Severin Fowles (Barnard College), primary instructor
• Dr. Adam Watson (AMNH), zooarchaeologist
• Dr. Tom Swetnam (AMNH), tree-ring specialist
• TBA

Teaching Assistants
• Valerie Bondura (PhD student, Columbia U.)
• Emmy Dawson (PhD student, U.T. Austin)
• Elizabeth Dresser-Kluchman (PhD student, Columbia U.)

Course Description

Only the most recent chapters of the past are able to be studied using traditional historiographical methods focused on archives of textual documents. How, then, are we to analyze the deep history of human experiences prior to the written word? And even when textual archives do survive from a given historical period, these archives are typically biased toward the perspectives of those in power. How, then, are we to undertake analyses of the past that take into account the lives and experiences of all of society’s members, including the poor, the working class, the colonized, and others whose voices appear far less frequently in historical documents? From its disciplinary origins in nineteenth century antiquarianism, archaeology has grown to become a rigorous science of the past, dedicated to the exploration of long-term and inclusive social histories.

“Laboratory Methods in Archaeology” is a 4-week, intensive introduction to the analysis of archaeological artifacts and samples in which we explore how the organic and inorganic remains from archaeological sites can be used to build rigorous claims about the human past. Students live and work in an immersive research setting, examining materials excavated from nearby archaeological sites as well as geological and biological settings sampled as part of the course. Specialized laboratory modules focus on the analysis of animal bone, botanical remains, ceramics, and chipped stone artifacts.

While the course only demands participation in the four weeks of fieldwork and completion of the assignments therein, all students are encouraged to develop specialized research projects to be subsequently pursued either (1) in the “American Material Culture” seminar (ANTH UN3723), which convenes every other fall on Barnard’s campus, (2) through senior thesis projects, or (3) through a presentation at the national Society for American Archaeology meeting.
The Ethics of Archaeological Research

As participants in a program focused on the study of the material heritage of Indigenous, Hispanic American, and Anglo American communities in New Mexico, students should maintain a continuously respectful stance towards both the archaeological remains and those whose identities are linked to them. This program has emerged through long-term consultations and collaborations with descendent communities and will continue to respond and evolve—often, during the middle of the field season—to the wishes and requests of these communities.

NOTE: No human remains or other objects deemed sensitive by the program’s descendant consultants will be included in the research.

Course Expectations

• Participation in laboratory exercises and field trips ........................................ 35% of final grade

“Laboratory Methods in Archaeology” is an intensive program with lab- and field-based exercises six days per week, typically extending from 8 a.m. until 4 p.m. with one hour allotted as a lunch break. Participation, therefore, constitutes a much higher portion of the cumulative grade than traditional classroom-based courses. Successful participation requires (1) alert attendance at all scheduled events, (2) continuous activity toward the research goal at hand, (3) a readiness to seek guidance from field directors and teaching assistants when unsure of correct procedures, (4) responsible care of all archaeological collections and equipment, and (5) thoughtful reflection on the intellectual and ethical aspects of the field program during group discussions.

• 4 Module Reports (10% each) ................................................................. 40% of final grade

The course centers on four primary modules: (1) Chipped Stone analysis, (2) Ceramic analysis, (3) Paleoethnobotany, and (4) Zooarchaeology. In each module, pairs of students are responsible for analyzing a pre-colonial or colonial assemblage of artifacts, previously excavated in the Taos region. Student analyses and lab reports will serve as a permanent record of these assemblages. Each Module Report should be between 5-10 pages.

  Module Report 1 (Chipped Stone Analysis) Due: July 12
  Module Report 2 (Ceramic Analysis) Due: July 18
  Module Report 3 (Paleoethnobotany) Due: July 22
  Module Report 4 (Zooarchaeology) Due: July 28

• Final Assemblage Report (due Aug 1) .................................................. 20% of final grade

Each team of two students will compose a 10-page Final Assemblage Report summarizing their analyses in the 4 Module Reports and drawing synthetic conclusions about the site and context in question.

• Final Presentation (on Aug 1) ................................................................. 5% of final grade

During our final afternoon together, each team of two students will present on their findings from throughout the course. Each presentation should 30 minutes.
Special Events

Daily laboratory studies will be supplemented by a series of special events, including:

- July 6: Tour of Pot Creek Pueblo and Picuris Pueblo
- July 4: Tour of Mesa Prieta Rock Art Site and Tsankawi Pueblo
- July 25: Santiago Feast Day and Corn Dance at Taos Pueblo
- July 28-29: Overnight trip to Chaco Canyon

Required Readings

The focus of this lab-based course is on analytical techniques, hands-on learning, and participation in original research. A reference library of key texts on analytical methods, as well as the local geology, plant and animal communities, archaeology, ethnography and history will be available for use as references and in the service of individual student projects. We will be collectively reading portions of the four major texts, copies of which will be available in the reference library:


See “Daily Schedule” for additional readings.

Learning Outcomes

Students who successfully complete this course will be able to:

- identify the morphology, geology, and use-wear of chipped stone artifacts from archaeological sites.
- identify the form, surface treatment, paste, and mineral inclusions of ceramic artifacts from archaeological sites.
- undertake flotation to recover macrobotanical samples from archaeological sites and identify the wood charcoal and seeds therein to the genus level.
- Identify the taxa, skeletal element, health, and taphonomy of faunal remains from archaeological sites.
- analyze assemblages of chipped stone, ceramic, macrobotanical, and faunal artifacts to build datasets that can be mobilized to make rigorous claims about human behavior in the past.
Where and When

The course will be held in the midst of the beautiful SMU-in-Taos campus, just south of Taos, New Mexico. Centered on the reconstructed buildings of an 1850s American cantonment, SMU-in-Taos includes a dedicated archaeology laboratory, computer center, library, and a collections facility with hundreds of thousands of excavated objects spanning the past five millennia of Southwestern history. Students will reside on the campus’s campground (with adjacent shower and bathroom facilities), share meals at the campus’s cafeteria, and have access to all campus resources. For more information on SMU-in-Taos, see https://www.smu.edu/Taos/Facilities.

Participants should arrange to arrive at the Albuquerque International Airport before 2:30 pm on July 5 and depart after 12 noon on August 2.

Eligibility

An interest in the past and its remains in the present is the only prerequisite. No prior experience in archaeology or anthropology is necessary. Enrollment is limited to 20 students.

Credits, Costs, and Financial Assistance

The total cost for participation and 4 credits from Barnard College is $6,468. This includes all expenses during the field season, including housing, food, and transportation. (Airfare costs to and from Albuquerque International Airport are not included.) The following financial assistance is available for qualified Barnard and Columbia students:

- **Barnard Archaeology Fellowship**: provides between $1,000-$3,000 in course subsidies to between 3-5 members of the field program each year. Preference is given to Archaeology majors at Barnard and Columbia and to students with clear financial need. Contact Prof. Fowles for details. (Deadline: March 2, 2018)
- **Robert Stigler Fund for Archaeological Research**: typically provides $500 to support first-time field experiences. Available to all undergraduate students at Barnard or Columbia. Contact Prof. Fowles for details. (Deadline: March 19, 2018)
- **Barnard Anthropology Fieldwork Grant**: provides a limited number of students with support for summer research projects (typically less than $2,000). Available to Barnard Anthropology majors. Contact Prof. Fowles for details. (Deadline: March 19, 2018)
- **Ella Deloria Undergraduate Research Fellowship**: provides a limited number of students with support for summer research projects (typically less than $2,500). Available to Columbia Anthropology majors. See http://anthropology.columbia.edu/undergraduate-research-fellowships (Deadline: March 19, 2018)
- **Tow Summer Research Fellowship**: provides a limited number of students with support for senior thesis research projects (fellowships range from $1,000 to $4,000). This is a competitive fellowship available to all Barnard juniors engaged in senior thesis research. Interested students should contact the Dean Leong, the junior class dean, during the fall semester to express interest. (Deadline: March 2, 2018)

Students interested in applying for any of these funding opportunities should contact Prof. Fowles as soon as possible.
How to Apply

Applications should include a completed Application Form, a college transcript, and the name of one reference (no need to have your reference submit a letter of recommendation; he or she will be contacted by Prof. Fowles directly). Barnard and Columbia students should contact Prof. Fowles to arrange a brief meeting to discuss the project as part of the application process. Students from other institutions should include a letter of recommendation from their current academic adviser or a past instructor who is familiar with their performance.

Application Deadline:  March 23

Application Procedure:  See https://barnard.edu/summer/faculty-led .

Students with Disabilities

Students with disabilities who will require special accommodations in the field should visit the Office of Disability Services (ODS) and meet with a staff member before applying for “Laboratory Methods in Archaeology”. Such students should also contact Prof. Fowles when applying to the course to set up a meeting, particularly if physical access is a concern. This course involves camping as well as some hiking to sites.

Barnard Honor Code

We, the students of Barnard College, resolve to uphold the honor of the College by engaging with integrity in all of our academic pursuits. We affirm that academic integrity is the honorable creation and presentation of our own work. We acknowledge that it is our responsibility to seek clarification of proper forms of collaboration and use of academic resources in all assignments or exams. We consider academic integrity to include the proper use and care for all print, electronic, or other academic resources. We will respect the rights of others to engage in pursuit of learning in order to uphold our commitment to honor. We pledge to do all that is in our power to create a spirit of honesty and honor for its own sake.
Daily Schedule

July 5 (TH):  Arrival
- 2:30 pm: Students arriving by plane should plan to be at the Albuquerque International Airport by 2:30 pm, at which point a group shuttle will depart for SMU-in-Taos.
- 5 pm: All students arrive in at SMU-in-Taos, either on the group shuttle or individually arranged.
- 5-7 pm: Organization of camp.
- 6-7:30 pm: Dinner

July 6 (F):  Orientation to collections
- Readings for July 13:
- 7-8 am: Breakfast
- 8-11:30 am: Lab and Collections Tour
- 11:30 am - 12:30 pm: Lunch
- 12:30-2 pm: Tour of Pot Creek Pueblo
- 3-5 pm: Tour of Picuris Pueblo
- 6-7:30 pm: Dinner

July 7 (SA):  Environmental overview
- 7-8 am: Breakfast
- 8-11:30 am: Geological sampling at McGaffey Ridge chert source
- 11:30 am - 12:30 pm: Lunch
- 12:30-4 pm: Geological sampling of micaceous clay deposits from U.S. Hill
- 6-7:30 pm: Dinner

July 8 (SU):  Free Day

July 9 (M):  Chipped Stone Analysis
- Readings for July 16:
- 7-8 am: Breakfast
- 8-11:30 am: Lecture: Techniques of Chipped Stone Analysis
- 11:30 am - 12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner
July 10 (TU): Chipped Stone Analysis
- Readings for July 17:
- 7-8 am: Breakfast
- 8-11:30 am: Geological sampling of Cerro de la Olla dacite
- 11:30 am -12:30 pm: Lunch
- 1:30-5 pm: Lab practicum
- 6-7:30 pm: Dinner

July 11 (W): Chipped Stone Analysis
- Readings for July 18:
- 7-8 am: Breakfast
- 8-11:30 am: Lab practicum (pXRF studies of chipped stone)
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner

July 12 (TH): Ceramic Analysis
- Readings for July 19
- DUE: Module Report (Chipped Stone Analysis) at 8 am
- 7-8 am: Breakfast
- 8-10 am: Techniques of Ceramic Analysis
- 10-11:30 am: Geological sampling of non-micaceous clay deposits from U.S. Hill
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner

July 13 (F): Ceramic Analysis
- Readings for July 20
- 7-8 am: Breakfast
- 8-11:30 am: Geological clay processing
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner

July 14 (SA): Field Trip: Mesa Prieta Rock Art Site and Tsankawi Pueblo
- 7-8 am: Breakfast
• 8 am - 11:30 pm: Tour of Mesa Prieta Rock Art Site
• 11:30 am -12:30 pm: Lunch
• 1-5 pm: Tour of Tsankawi Pueblo
• 6-7:30 pm: Dinner

July 15 (SU): Free Day
• 7-8 am: Breakfast
• 8-11:30 am: Ceramic tile and experimental vessel creation
• 11:30 am -12:30 pm: Lunch
• 12:30-4 pm: Lab practicum
• 6-7:30 pm: Dinner

July 16 (M): Ceramic Analysis
• Readings for July 19
• 7-8 am: Breakfast
• 8-11:30 am: Experimental ceramic firing and sherd re-firing
• 11:30 am -12:30 pm: Lunch
• 12:30-4 pm: Lab practicum
• 6-7:30 pm: Dinner

July 17 (TU): Ceramic Analysis
• Readings for July 24
• 7-8 am: Breakfast
• 8-11:30: Lab practicum
• 11:30 am -12:30 pm: Lunch
• 12:30-4 pm: Lab practicum
• 6-7:30 pm: Dinner

July 18 (W): Paleoethnobotany
• Readings for July 25:
• DUE: Module Report (Ceramic Analysis) at 8 am
• 7-8 am: Breakfast
• 8-9:30 am: Techniques of Paleoethnobotany
• 9:30-11:30 am: On-site plant inventories and botanical collections
• 11:30 am -12:30 pm: Lunch
• 12:30-4 pm: Flotation of excavated sediment samples
• 6-7:30 pm: Dinner
July 19 (TH):  Paleoethnobotany
  - Readings for July 25:
  - 7-8 am: Breakfast
  - 8-11:30 am: Comparative sample preparation (wood charcoal and seeds)
  - 11:30 am -12:30 pm: Lunch
  - 12:30-4 pm: Lab practicum
  - 6-7:30 pm: Dinner

July 20 (F):  Paleoethnobotany
  - 7-8 am: Breakfast
  - 8-11:30: Lab practicum
  - 11:30 am -12:30 pm: Lunch
  - 12:30-4 pm: Lab practicum
  - 6-7:30 pm: Dinner

July 21 (SA): Free Day
  - 7-8 am: Breakfast
  - 6-7:30 pm: Dinner

July 22 (SU):  Zooarchaeology
  - Readings for July 20:
  - DUE: Module Report (Paleoethnobotany) at 8 am
  - 7-8 am: Breakfast
  - 8-11:30: Techniques of Zooarchaeology
  - 11:30 am -12:30 pm: Lunch
  - 12:30-4 pm: Lab practicum
  - 6-7:30 pm: Dinner

July 23 (M):  Zooarchaeology
  - Readings for July 20:
  - 7-8 am: Breakfast
  - 8-11:30: Lab practicum
  - 11:30 am -12:30 pm: Lunch
  - 12:30-4 pm: Lab practicum
  - 6-7:30 pm: Dinner

July 24 (TU):  Zooarchaeology
  - Readings for July 20:

- 7-8 am: Breakfast
- 8-11:30: Lab practicum
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner

**July 25 (W): Field Trip: Taos Pueblo**
- 7-8 am: Breakfast
- 10am - 4 pm: Santiago Feast Day and Corn Dance at Taos Pueblo
- 6-7:30 pm: Dinner

**July 26 (TH): Zooarchaeology**
- 7-8 am: Breakfast
- 8-11:30: Lab practicum
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner

**July 27 (F): Zooarchaeology**
- 7-8 am: Breakfast
- 8-11:30: Lab practicum
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Lab practicum
- 6-7:30 pm: Dinner

**July 28 (SA): Field trip: Chaco Canyon**
- DUE: Module Report (Zooarchaeology) at 7 am
- 6-7 am: Breakfast
- 7 am: Departure for Chaco Canyon
- Afternoon: Tour Chaco Great Houses
- Evening: Camp at Chaco

**July 29 (SU): Field trip: Chaco Canyon**
- 6-7 am: Breakfast at campsite
- Morning: Tour Chaco Great Houses
- 2 pm: Return to campus

**July 30 (M): Individual Lab Projects**
- 7-8 am: Breakfast
- 8-11:30: Guided work in lab
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Guided work in lab
- 6-7:30 pm: Dinner
July 31 (TU): Individual Lab Projects
- 7-8 am: Breakfast
- 8-11:30: Guided work in lab
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Guided work in lab
- 6-7:30 pm: Dinner

Aug 1 (W): Collections Management and Final Presentations
- DUE: Final reports at 8 am
- 7-8 am: Breakfast
- 8-11:30: Collections management
- 11:30 am -12:30 pm: Lunch
- 12:30-4 pm: Final presentations summarizing project findings
- 6-7:30 pm: Dinner

Aug 2 (TH): Departure
- 7-8 am: Breakfast
- Departure for Albuquerque Airport. All students leaving by plane should schedule their departing flight for 12 noon or later.