



Field Archaeobotany Intensive Short Course

May 22-26, 2017



In May 2017, the Center for the Analysis of Archaeological Materials (CAAM) at the Penn Museum of Archaeology & Anthropology will offer an intensive five-day course in field archaeobotany. The course is open to graduate students in anthropology and related disciplines as well as professional archaeologists. Coursework is geared toward individuals with previous archaeological experience. Our daily schedule will replicate the activities and decisions of a field archaeobotanist in order to familiarize participants with the responsibilities they will encounter on an archaeological project. Course lectures will educate participants on how to choose and implement appropriate sampling strategies. Case studies will be used to explore best-practice techniques for the recovery of macrobotanical remains, phytoliths, and starch grains. Hands-on activities in class will include learning how to set up a small field lab and building a recycling hand-pump flotation system. Participants will then process flotation samples and work to team-sort heavy fraction. We will also spend time practicing microbotanical sampling techniques with experimental artifacts from the CAAM lab. All participants will keep a detailed field log, and the instructor will provide extensive handouts and online readings to be discussed in class. At the end of this short course, participants will be better prepared to initiate an archaeobotanical recovery program that incorporates a solid understanding of site formation processes and helps to address research questions related to past human activity and paleoenvironment.

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Intensive Course in Field Archaeobotany: Proposed Daily Schedule

| Monday, 5/22 | Introduction to Archaeobotany |
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| Morning – part I | Introduction to archaeobotanical remains: macrobotanical (focus on carbonized); phytoliths; starches. Research questions, goals of study. |
| | CAAM Tour |
| Morning – part II | Lab: Experimental archaeobotany exercise. Plant processing, dehusking and grinding grain. Boiling legumes and stomping grapes. |
| | LUNCH |
| Afternoon – part I | Lab: Introduction to low-power and high-power microscopy: examination of experimentally processed plant remains. Diagnostic attributes, equipment needed for study. |
| | BREAK |
| Afternoon – part II | Building a macrobotanical reference collection and introduction to CAAM digital database. |

| Tuesday, 5/23 | Botanical Field Survey and Specimen Mounting |
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| Morning – part I | Introduction of field survey and creating a local plant collection; building a press and pressing plant specimens. Collecting and drying seeds. |
| | BREAK (Travel on bus) |
| Morning – part II | Visit to Morris Arboretum for a tour; practice keying out plants and using reference guides; collecting and pressing specimens. |
| | Late LUNCH at Arboretum |
| Afternoon – part I | Return to CAAM via bus |
| Afternoon – part II | Mounting plant specimens for identification purposes and long-term curation. Lab: hands-on practice with plant mounting supplies. |

| Wednesday, 5/24 | Sampling Strategies and Techniques in the Field |
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| Morning – part I | Identifying site formation processes and types of contexts (primary, secondary, tertiary); conditions for archaeobotanical preservation and destruction. |
| | BREAK |
| Morning – part II | Strategies for sampling an archaeological site; techniques and equipment needed for acquiring macrobotanical and microbotanical samples. Keeping a detailed field log. |
| | LUNCH |
| Afternoon – part I | Lab: Hands-on microbotanical sampling of ground stone, lithics and pottery. |
| | BREAK |
| Afternoon – part II | Group exercise: Designing a sampling program for an archaeological site (info about preservation conditions, budget, personnel, and scope of project will be provided). |

| Thursday, 5/25 | Recovery Methods (Macrobotanical) |
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| Morning – part I | Introductory lecture on principles of flotation; small-scale bucket flotation vs. machine-powered flotation. What to bring from the US (how to order parts, what to build before you leave the US) |
| | BREAK |
| Morning – part II | Outdoor exercise: constructing a hand-pump recycling flotation system |
| | LUNCH |
| Afternoon – part I | Outdoor exercise: Processing samples; issues with clay soils, seed explosion, heavy/mineralized specimens, etc. Setting up light fraction drying space and heavy fraction drying rack. |
| | BREAK |
| Afternoon – part II | Dry-sieving: importance and limitations. Sub-sample flotation sample to compare dry-sieving and flotation preservation rates. Practice in lab. |



| Friday, 5/26 | Processing, Sorting, and Transporting Samples |
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| Morning – part I | Building a field lab: necessary equipment, facilities, supplies. |
| | BREAK (early) |
| Morning – part II | Light fraction analysis: recording sample information; transferring to long-term storage, first-stage sorting of charcoal and seeds, weighing. |
| | LUNCH |
| Afternoon – part I | Heavy fraction sorting: training personnel/students. Identifying animal remains (+bird, rodent, fish, eggshell), pottery, slag, lithics, etc. Guest lecture from CAAM zooarchaeologist Kate Moore. |
| | BREAK (late) |
| Afternoon – part II | Discussion of export and import limitations (US soil permits) for both macro- and micro-remains. Wrap-up lecture and final overview; final handouts and resources to take away from course. |