LABORATORY METHODS: ARCHAEOBOTANY
ANTHROPOLOGY 413 AND 413L
FALL 2018

DR. C. MARGARET SCARRY
OFFICES: 108 AND 202 ALUMNI BUILDING
OFFICE HOURS: T 3:30-5, W 9-10 OR BY APPOINTMENT
EMAIL: SCARRY@EMAIL.UNC.EDU

COURSE DESCRIPTION: This class introduces you to the aims, methods, and applications of archaeobotany and gives you experience working with archaeological plant remains. We will begin with a brief examination of the history and scope of archaeobotany. From there, we will move to considerations of the nature of archaeobotanical data and of field and laboratory methods appropriate for recovering, identifying, and analyzing plant remains. Then we will shift our focus to issues of interpretation. We will examine how we can use archaeological data to investigate questions about: 1) peoples’ relationships with/impact on the environments in which they live, 2) peoples’ subsistence strategies and diets, 3) the origins and spread of domesticated plants, and 4) peoples’ use of food for negotiating and symbolizing social and political relations.

As a participant in this class you will also get hands-on research experience with analyzing archaeological plant remains and presenting the results of your analysis in a written report. I will introduce you to basic procedures for sorting and identifying plant remains. Then we will analyze archaeobotanical samples from an American Indian village, in North Carolina. Besides sorting the samples, we will analyze the data and prepare and discuss interpretive reports on the results of our analyses.

OBJECTIVES: By the end of the semester I expect that you will:
- Be familiar with the goals and practices of archaeobotany.
- Understand how archaeobotanical data contribute to our understanding of the environments and foodways of people who lived in other times and places.
- Develop a working knowledge of and hands-on experience with the methods used to recover, analyze, and interpret archaeological plant remains.
- Gain experience with the steps involved in preparing a research report that presents and interprets original data.

This is a combined seminar and lab course. On Tuesdays, we will meet from 2-3:15. On Thursdays, we will meet from 2:00 to 4:45 with a short break in the middle: this longer session will give us extra time for lab work. Some sessions will be devoted to discussions of readings, some will combine discussions of readings with lab exercises, and some will be devoted primarily to working on sorting and identifying plant remains from archaeological samples. (The schedule of discussion topics, lab exercises, and lab days is below.) The success of this class will depend on our mutual commitment to thoughtful, informed discussions; careful, diligent lab work; and collaborative creative thinking. Regular attendance and diligent work during the lab sessions will count for 50% of your lab grade (ANTH 413L).
RESEARCH PROJECT: The best way to gain an appreciation for the procedures, problems and potentials of archaeobotanical analyses is to work with actual samples. As a class, we will undertake the analysis of plant remains from the Wall site, an American Indian village (ca. A.D. 1400-1600), located near Hillsboro, North Carolina. Excavations at the Wall site by UNC’s Research Labs of Archaeology have revealed multiple houses surrounded by a stockade. The plant samples we will analyze come from a rich refuse deposit that UNC field school students excavated in 2015 and 2016. Each of you will have responsibility for sorting and identifying the plant remains from at least one sample (more if there is time) of plant remains from the Wall site. Besides the actual lab work, each of you will write a research report based on the plant data from the site. Over the course of the semester, we will discuss the basic elements of a research report and assemble the information necessary to write a report on the Wall plant assemblage. Towards the end of the semester when the samples have been sorted, we will collate the data, discuss how to analyze them and generate ideas about how to interpret the results. While we will do much of this work as a class or in groups, each of you will write a separate research report (complete with figures, tables, and citations). You will prepare sections as we go along, get feedback from me and incorporate your revisions into a complete research report that is due at the time the final is scheduled (noon on Dec. 8). Your final product should include all the elements of a research report (background information, research questions, recovery procedures, lab methods, presentation of data/results, and discussion of how the results relate to your research questions). The length of a report is difficult to specify, but is probably in the range of 10 to 20 pages—including tables, figures and citations. During the exam period, we will meet to turn in the papers and discuss and compare your research questions and interpretations of the assemblage. For this session, I expect you to prepare one or two powerpoint slides that present your key findings/interpretations. Your research report and powerpoint slide(s) will count for 45% of your final grade in ANTH 413.

READING ASSIGNMENTS AND WRITING RESPONSES: There is no textbook for this course. There are, however, required readings in the form of book chapters and journal articles that I will make available to you on SAKAI. I expect you to read the material before the class for which it is assigned. For classes that have assigned readings, you will be required to submit either a short (at least a paragraph but not more than a page) written response to a question that I post. We will use the assignments section on SAKAI for the questions and your responses. You will need to check the assignments page as you prepare for each class to see whether you are to respond to a question. Since these questions and your responses are intended to help you organize your thoughts for our discussions, your responses should be posted before class meets (noon at the latest). I will grade your responses as follows: 0 points for not posting a response, .8 points for posting, 1 point for a thoughtful effort. Unless you have an excused absence, if you turn an response in late, you will receive only .5 points. I will not accept responses that are posted more than a week late. Together the written responses will count for 10% of your ANTH 413 grade.

LAB EXERCISES: Over the course of the semester, there will be five lab exercises designed to introduce you to lab skills pertinent to archaeobotanical analyses and interpretation. These exercises will be conducted during lab sessions and will include written notes that you turn in at the end of the session. The exercises will be graded as follows: 0 points if you do not turn in a lab exercise, 0.8 points for turning in a lab exercise, and 1 point for turning in a thorough effort.
If you notify me in advance that you are sick or have a legitimate reason to be absent, we can make arrangements for you to make up the lab for credit. There will be no make up for lab exercises missed without a valid excuse. **Together the lab exercises will count for 50% of your lab grade (ANTH 413L).**

**SHORT ASSIGNMENTS:** To conduct archaeobotanical research you must know something about plant taxonomy, some basic plant anatomy, how to find ecological and nutritional information about particular plants, and how to find archaeological and ethnohistoric information to aid in interpreting a plant assemblage. There will be three short assignments designed both to show you how to pursue such information and to generate and revise sections that you will include in your research report. **Each of the short assignments is worth 15 points. Together the short assignments will count for 45% of your ANTH 413 grade.**

- **Plant Resources Research:** I will assign each of you one of the plants that we expect to find in the archaeological assemblage we are analyzing. You will track down information about its abundance, seasonality, ecological characteristics, nutritional content, etc. I will provide guidelines that specify what information you are to gather and point you towards sources where you can find such information. Once you have gathered the information, you are to put together a digital show for presentation to the class. Your presentation should be planned to take 10 minutes. **The presentations will be given on Oct. 11.** You are to submit a copy of your digital file to me for posting on SAKAI before class meets on the 11th. After your presentation, I will give you feedback on how to make the content, visual, and oral aspects of your presentation more effective.

- **Report Background Research:** We will gather comparative and background material for your final reports by reading articles on late pre-Columbian American Indian culture, southeastern archaeology and pertinent archaeobotanical studies. You will use this material to draft an introduction for your research report that includes background information, research questions, and methods. I will give you suggestions for revisions that you can make in preparing the final report. **Your draft introduction is due on Tues. Nov. 20.**

- **Report Table and Figure Preparation:** We will compile a quantified list of the plants that we find in the archaeobotanical samples. Using the information from the presentations generated by the class, you are to create tables or figures that present information that is relevant for interpreting the assemblage from our site. You will then use the tables to derive observations for interpreting the assemblage. (Again I will give you instructions about how to proceed.) I will review your tables and make suggestions for revisions to be incorporated in your final research paper. **Your tables and observations are due on Thursday Nov. 29.**

**FINAL:** There will not be a “traditional” final exam for this class. Instead, you will write a research report on the archaeobotanical assemblage (see description above) and turn it in at the time scheduled for the final. We will spend the exam period discussing your research questions and your interpretations of the results. To facilitate this discussion, you will prepare one or two powerpoint slides that present your key findings. (We have received permission to use this non-traditional” final instead of a formal exam.)
GRADES: Active, conscientious participation is the key to doing well in this class. Given the small size and nature of the class, I anticipate that most of you will do well, provided that you actively participate. Grades will be calculated as follows:

- For Anth 413: 10% written responses; 15% for each of the three short assignments (45% total), and 45% for the final research report.
- For Anth 413L: 50% attendance and diligent participation/performance in the lab (measured by dedication rather than accuracy); 50% notes from the lab exercises.

GRADUATE RESEARCH CONSULTANT: In this research-exposure course, you will be working with a Graduate Research Consultant, Anna Graham will work with me to teach you how to sort and identify plant remains. The GRC Program is sponsored by the Office for Undergraduate Research and you may be able to use this research-exposure course to meet a requirement of the Carolina Research Scholar Program. I encourage you to visit the OUR website to learn about how you might engage in research, scholarship and creative performance while you are at Carolina.

Anna Graham is a PhD student in Anthropology whose dissertation focuses on the foodways of American Indian Societies who lived in the Lower Mississippi Valley between A.D. 800 and 1200. She has experience working on plant remains from American Indian sites in Mississippi and North Carolina, including analyzing plants from the Wall site and others located in Piedmont, North Carolina. Anna will help supervise the lab sessions when we work on the Wall site samples. She will also be available to help as we collect background information, develop research questions, and interpret the Wall site plant data.

We SUPPORT THE HONOR CODE AND EXPECT YOU TO ABIDE BY ITS GUIDELINES. [http://studentconduct.unc.edu/](http://studentconduct.unc.edu/)

COURSE SCHEDULE: This is a tentative schedule. We may modify it or change some readings as our project develops and we find areas that need further investigation or ones that can be eliminated. The overall workload will not increase.

Tuesday, Aug. 21 – Introduction to Class and Research Project

Thursday, Aug. 23 – Introduction to Wall Site - Guest Presentation by Dr. Steve Davis


[Ancient North Caroliniana: Central Piedmont](http://www.carolinaheritage.org/ancientnorthcaroliniana) (Read discussions of Wall and Fredericks sites and of Woodland and Historic Periods. You can also poke around and look at artifacts for the Central Piedmont.)

Recommended: If you are unfamiliar with archaeological methods or with North Carolina Archaeology, you might find it useful to explore [Excavating Occaneechi Town](http://www.carolinaheritage.org/occaneechitown). This is an interactive excavation based on RLA work at the Fredericks site (ca. 1680-1710), which like the Wall site is located in the Hillsboro Archaeological District.
Tuesday, Aug. 28 – Archaeobotanical Research Questions and the Nature of Plant Data

Thursday, Aug. 30 – Taphonomy, Biases, and Discussion of How these Impact Archaeological Assemblages from Eastern North America (w/ lab exercise)

Tuesday, Sept. 4 – Background to Project: American Indian History and Subsistence Practices in the Southeast

Thursday, Sept. 6 – Field Methods: Sampling Strategies, and Recovery Procedures, Lab (distribute samples and prepare for sorting and identification)

Tuesday, Sept. 11 – Background to Project: Discuss Research Questions for Plant Assemblage
Recommended: These chapters are good basic archaeological background for your report

Thursday, Sept. 13 – Lab

Tuesday, Sept. 18 – Lab Methods: Sample Sorting and Identification (w/ lab exercise on describing seeds)

Thursday, Sept. 20 – Introduce Plant Exercise and Assign Taxa, Lab

Tuesday, Sept. 25 – Ecology, Seasonality and Use

Thursday, Sept. 27 – Lab

Tuesday, Oct. 2 – Identification and Interpretation of Wood Remains
Hoadley, R. Bruce (1990) The Structure of Woody Plants: Gross Anatomical Features (Chapter 2), The Structure of Woody Plants: Softwoods (Chapter 3) and The Structure of Woody
Plants: Hardwoods (Chapter 4). In *Identifying Wood*, pp. 7-45. Taunton Press. (each chapter is posted as a separate file)

**Thursday, Oct. 4 – Wood Identification (w/ lab exercise on basic wood identification features) Lab**

**Tuesday, Oct. 9 – Pollen, Phytoliths, Starch Grains, and Residues**

**Thursday, Oct. 11 – Student Taxon Presentations**

**Tuesday, Oct. 16 – Subsistence Strategies: Foraging and Farming Practices**

**Thursday, Oct. 18 (fall break)**

**Tuesday, Oct. 23 – Domestication**
Thursday, Oct. 25 – SEM Demonstration with Lab Exercise

Tuesday, Oct. 30 – Elements of an Interpretive Lab Report, Lab

Thursday, Nov. 1 – Lab

Tuesday, Nov. 6 – Social Uses of Food

Thursday, Nov. 8 – Lab

Tuesday, Nov. 13 – Lab

Thursday, Nov 15. – No Class (Dr. Scarry and Anna Graham will be attending the Southeastern Archaeological Conference. Use this time to work on your draft report introductions)

Tuesday, Nov. 20 – Drafts of Research Report Introductions are Due; Compile the Data; Instructions for Creating Tables

Thursday, Nov. 22 (TG)

Tuesday, Nov. 27 – Quantitative Analyses of Marcoremains

Thursday, Nov. 29 – Draft Data Tables are Due, Data Analysis Workshop
Tuesday, Dec. 4 – Report Writing Workshop

Sat. Dec. 8 Noon – Final Research Reports are Due (Meet in Lab during exam period to turn in papers and discuss interpretations)