

# **ANTHROPOLOGY 605**

## **Conservation of Archaeological Resources I**

### **Fall Semester 2009**

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**Office Hours: 10:00 AM - 11:00 AM T&Th or by appointment, Anthropology Building, Room 234AA**

This course introduces students to the techniques of stabilizing and preserving deteriorated or corroded artifacts from archaeological sites. Proper conservation techniques are introduced in seminar/laboratory sessions designed to familiarize students with the chemicals, equipment, and procedures used in the treatments. Practical experience will be gained in treating organic and siliceous materials, and the various metals commonly found in prehistoric and historic sites.

It must be remembered that the Conservation Research Laboratory (CRL) is a working laboratory. Therefore, all class and laboratory work is expected to be performed between 2:00 PM and 5:30 PM on Tuesdays and Thursdays. Work in CRL outside of class hours is not encouraged! The latest version of the syllabus and various reading for the class will be posted on-line. The links to the readings and conservation bibliography will be posted on the web and can be accessed by clicking on the links in the on-line syllabus. The index page for the primary conservation manual for this class can be found at: <http://nautarch.tamu.edu/class/anth605/File0.htm>

Basic textbook for the class is: *Cronyn, J. M., and Wendy S. Robinson. 1990. The Elements of Archaeological Conservation. London: Routledge.*

Additional Readings, other than those listed above will be assigned on a weekly basis.

Other useful conservation links can be found at:

Conservation on Line -- <http://palimpsest.stanford.edu/>

In process of moving to:

American Institute of Conservation: <http://www.conservation-us.org/index.cfm?fuseaction=Page.ViewPage&PageID=999>  
National Center for Preservation Technology and Training -  
<http://www.ncptt.nps.gov/>  
Periodic Table - Elements - <http://www.webelements.com/>

## **TENTATIVE SCHEDULE** (*Subject to Change*)

**Lecture Class - Tuesday; Laboratory - Thursday**

**WEEK 1:** (Sep. 1-3) - Introduction to laboratory, Chemical Safety, Laboratory Tour.

MATERIAL SAFETY DATA SHEETS (MSDS) FOR MATERIALS AND CHEMICALS USED IN THIS LAB MAY BE ACCESSED AT:  
<HTTP://WWW.ILPI.COM/MSDS/INDEX.CHTML>

**General Safety Index:** <http://www2.hazard.com/msds/index.php>

**Prior to class read:** UNESCO book, Chapter A. Basic equipment and processes by [H.W.M. Hodges](#).

**Readings:** Cronyn, chpt. 1, Introducing Archaeological Conservation; ch. 2, Agents of deterioration and preservation; ch. 3, General Techniques of Conservation; and Conservation Manual FILE 1 <http://nautarch.tamu.edu/class/anth605/File1.htm>.

**WEEK 2:** (Sep. 8-10) - Adhesives & Consolidants.

**Readings:** Conservation Manual FILE 2  
<http://nautarch.tamu.edu/class/anth605/File2.htm>; UNESCO, 1968: Appendix: p. 305-331; [Curt Moyer](#), The Duco Dialogues; [Stephen Koob](#), Using Acryloid B-72 for the Repair of Archaeological Ceramics; [SPNHC Leaflets](#), Vol. 1, No. 2; Adhesives and Consolidants in Geological and Paleontological Conservation: A Wall Chart.

***Thurs. - Begin Adhesive-Consolidants lab. Make Paraloid Glue and mix consolidants.***

**WEEK 3:** (Sept. 15-17) - Bone & Ivory

**Readings:** Cronyn ch. 6, pp. 238-245, pp. 275-284; and Bone Section in Conservation Manual FILE 3 <http://nautarch.tamu.edu/class/anth605/File3.htm>.

**WEEK 4:** (Sept. 22-24) - Wood

**Readings:** Cronyn ch. 6, pp. 246-263; [CCI Journal on Wood](#); and Wood Section in Conservation Manual FILE 6 <http://nautarch.tamu.edu/class/anth605/File6.htm>.

**Archaeological Preservation Research Laboratory WEB Pages:**

Silicone Oil in Organic Conservation (CRL):

<http://nautarch.tamu.edu/CRL/report3/silicone.htm>

Index to APRL Reports:

<http://nautarch.tamu.edu/aprl/index.shtml>

Silicone and Polymer Technologies: An Additional Tool in Conservation

<http://nautarch.tamu.edu/aprl/report01.htm>

Re-treatment of PEG Treated Waterlogged Wood

<http://nautarch.tamu.edu/aprl/report02.htm>

Re-Treatment of a PEG Treated Composite Artifact - A Sabot

<http://nautarch.tamu.edu/aprl/report03.htm>

**WEEK 5:** (Sept. 29-Oct. 1) - Wood (cont.)

**Readings:** [Watson, 1982](#), pp. 237-242; Conservation of Waterlogged Wood, National Museum of Denmark - <http://www.natmus.dk/cons/x/ww/ww1.htm>

**WEEK 6:** (Oct. 6-8) - Leather

**Readings:** Cronyn ch. 6, pp. 263-274; (P&W, Ch. I, Animal Skins and Skin Products); [Omar, McCord & Daniels](#), The Conservation of bog bodies by freeze drying, in Studies in Conservation, V. 34, No. 3, pp. 101-109; and Leather Section in Conservation Manual FILE 7 <http://nautarch.tamu.edu/class/anth605/File7.htm>.

**WEB Pages:**

Guidelines for the care of waterlogged archaeological leather

<http://www.eng-h.gov.uk/guidelines/leather.html>

Conservation Research Laboratory (CRL) Leather Dressing

<http://nautarch.tamu.edu/aprl/report10.htm>

**WEEK 7:** (Oct. 13-15) - Textiles, Rope, & Misc. Organic Material

**Readings:** Cronyn ch. 6, pp. 284-295; and Textile Section in Conservation Manual FILE 8 <http://nautarch.tamu.edu/class/anth605/File8.htm>.

**WEB Pages:**

Silicone and Polymer Technologies: An Additional Tool in Conservation

<http://nautarch.tamu.edu/aprl/report01.htm>

Silicone Oil: A New Technique for Preserving Waterlogged Rope

<http://nautarch.tamu.edu/aprl/report05.htm>

Conservation of 17th Century Canvas Using Silicone Oils

<http://nautarch.tamu.edu/aprl/report06.htm>

Silicone Bulking of Waterlogged Cork Using PS340, PS341 and PS343 Silicone Oils

<http://nautarch.tamu.edu/aprl/report07.htm>

Conservation of Waterlogged Corn Cobs Using Silicone Oils

<http://nautarch.tamu.edu/aprl/report08.htm>

**WEEK 8:** (Oct. 20-22) - Glass, Pottery & Stone ----- (*I will be in China all of this week*)

**Readings:** Cronyn chpt. 4; [Barov](#), The Reconstruction of a Greek Vase, in Studies in Conservation, V. 33, No. 4, pp. 165-176; [Olive & Pearson 1975](#):63-68; [Mibach 1975](#); and Ceramic and Glass Section in Conservation Manual FILE 4 <http://nautarch.tamu.edu/class/anth605/File4.htm> and FILE 5 <http://nautarch.tamu.edu/class/anth605/File5.htm>.

**WEB Pages:**

Conservation of Devitrified Glass with Methylhydrocyclosiloxanes and Silicone Oils

<http://nautarch.tamu.edu/aprl/report15.htm>

**WEEK 9:** (Oct. 27-29) - **First Exam, Tuesday, October 27; over non-metals conservation**

**Readings:** Cronyn ch. 5, pp. 160-20; and Metal Conservation: Preliminary Steps, and Iron Conservation Part I: Introduction and Equipment Sections in Conservation Manual FILE 9 <http://nautarch.tamu.edu/class/anth605/File9.htm> and FILE 10a <http://nautarch.tamu.edu/class/anth605/File10a.htm>

*Thurs. - Start iron conservation: Mechanical, Chemical Cleaning*

**WEEK 10:** (Nov. 3-5) - Iron, Electrolytic Cleaning

**Readings:** Iron Section in Conservation Manual FILE 10b <http://nautarch.tamu.edu/class/anth605/File10special.htm>; Tannic Acid by [Logan, CCI, 9/5](#); An improved tannin-based corrosion inhibitor-coating system for ferrous artifacts by [Worth Carlin and Donald H. Keith](#), IJNA, 25.1:38-45

Conservation of Iron and their Consequences , National Museum of Denmark -  
<http://www.natmus.dk/cons/x/metal/m1.htm>

**WEEK 11:** (Nov. 10-12) - Copper, Bronze, Brass

**Readings:** Non-Ferrous Metals and Cupreous Metal Sections in Conservation Manual FILE 11 <http://nautarch.tamu.edu/class/anth605/File11.htm> and FILE 12 <http://nautarch.tamu.edu/class/anth605/File12.htm>; Cronyn ch. 5, pp. 213-230; [Weisser](#), pp. 105-108; A bronze cannon from La Belle, 1686: its construction, conservation and display, by [Donald H. Keith and Worth Carlin](#), IJNA, 26.2: 144-158

**WEEK 12:** (Nov. 17-19) - Lead, Tin and Pewter

**Readings:** Lead, Tin and Lead Alloys Section in Conservation Manual FILE 14 <http://nautarch.tamu.edu/class/anth605/File14.htm>; Cronyn ch. 5, pp. 201-213; [Lane 1979](#); On the treatment of pewter plates from the wreck of La Belle, 1686 by [Worth Carlin and Donald H. Keith](#), IJNA, 26.1: 65-74.

**WEEK 13:** (Nov. 24-26) - Silver and Gold; Composite Artifacts

**Readings:** Silver and Gold Sections in Conservation Manual FILE 13 <http://nautarch.tamu.edu/class/anth605/File13.htm> and FILE 15 <http://nautarch.tamu.edu/class/anth605/File15.htm>; Cronyn chpt 5, pp. 230-237; [MacLeod & North 1979](#); [Scott, 1983](#);

*Thursday-Friday, Thanksgiving Holiday*

**WEEK 14:** (Dec. 1-3) - Modern Metals, Composite Artifacts; **Ceramic Restoration Exercise due**

Copies of all readings will be on reserve in the Nautical Archaeology Library and CRL.

**WEEK 15:** (Dec. 8) - Tuesday, redefined day; Students attend their Thursday lab class instead of Tuesday class.

Finish all projects, leave projects at your desk for grading, clean up laboratory. Last class day!

**Final Exam, (Second Exam) Wednesday, December 16, over metals conservation**

**BASIS FOR DETERMINING GRADE IN ANTHROPOLOGY 605**

Each student's grade will be based on:

1. Class attendance, participation in class discussions and laboratory activities. Excessive absences (more than two un-excused absences) may result in a lower grade

2. Pop exams over assigned readings (5% of total grade)

(If no pop exams given, 50% exams, 50% lab reports and ceramic project.)

3. Two exams (50% of total grade, 25% each exam) Second exam to be taken on the day and time designated for the final for this time period. Note, keep this in mind, no early exams will be given.

4. Two lab reports (40- 45 % of total grade, 20-22.5% each) and 10% ceramic restoration project

Each report will **emphasize** the student's own laboratory experiences as well as pertinent observations and comparisons garnered from lectures, published data and assigned readings. Each report should be as succinct as possible. Each report will follow a prescribed format and will have no more than 15 pages of text, not counting figures, tables and samples.

**Report I:** Conservation of Organic Material (emphasis on wood and leather) - due by Friday, Nov. 6, 5:00PM

**Report II:** Conservation of Metal, (emphasis on iron, brass, lead), due by Friday, Dec. 11, 5:00PM

**Ceramic Restoration Exercise**, to be presented by Thursday, Dec. 3, in class

**NOTE!! - TREATED SAMPLES ARE TO BE INCLUDED WITH EACH REPORT -- NO EXCEPTIONS and NO EXCUSES!!!!!!!!!!!!!!!!!!!!!!**

**LATE REPORTS ARE NOT APPRECIATED AND WILL BE GRADED ACCORDINGLY. NOTE: NO INCOMPLETES (I) WILL BE GIVEN IN THIS COURSE. FAILURE TO COMPLETE ALL THE COURSE REQUIREMENTS BY THE END OF THE SEMESTER WILL RESULT, AT THE OPTION OF THE INSTRUCTOR, IN AN "F" OR THE EXISTING AVERAGE OF THE WORK COMPLETED.**

### **The Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the office of Support Services for Students with Disabilities in Room 126 of the Student Services Building. The phone number is 845-1637.

### **TAMU Plagiarism Policy**

The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly deemed, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."

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For many years Aggies have followed a **Code of Honor**, which is stated in this very simple verse:

**"An Aggie does not lie, cheat, or steal or tolerate those who do."**

The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified.

The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other.