ANTH 606, Spring 2019
Conservation of Cultural Resources II
Course Objectives: ---------- Subject to Change!

Conservation of Cultural Resources II is the second of three conservation classes in the Nautical Archaeology Program required for the Conservation Certificate.. This class is designed as a hands-on class where you get experience working with actual artifacts from archaeological sites and learn basic casting techniques used in conservation. Each student will work individually on a number of projects in the lab. It is not designed to be a problem type course (685) or a theoretical course where you conduct independent research. In order to provide you with practical, hands-on experience, you will be required to complete several casting projects and conserve a variety of material from archaeological sites, as well as a number of assigned projects. There will be a number of artifacts from actual archaeological sites to be conserved. Regardless, you are responsible for filling out a conservation card, keeping the artifact or object with its identifying artifact number at all times, taking photographs of each step of the conservation process. Before starting any project you are to determine what problems might be present and how you are going to solve the problems by preparing a detailed, step by step listing of the steps you intend to take. Before, during, and after, photographs and x-rays (as needed) are required. The conservation plan you design has to be approved by Dr. Hamilton before starting.

In this class you are able to put into practice the skills and techniques that you were exposed to in ANTH 605 and develop a more in depth understanding of the procedures involved. In addition you will be taught some new conservation skills that were not covered in ANTH 605, such as radiography and casting techniques. You will be expected to be imaginative and to "think on your feet" as you devise treatment processes for the different artifacts. You are expected to conduct research on the alternative procedures for treating your artifacts. Each artifact is analogous to a seminar report and you are expected to have a thorough understanding of the conservation processes and know the rationale for whatever conservation process you selected to treat each artifact. Each project you undertake will constitute part of an "Artifact Conservation Portfolio" that you will turn in for the course grade at the end of the semester.

Link to reading in ANTH 606, Spring 2019 to be used to design the conservation plans.

https://www.dropbox.com/sh/s3ujccajsu42tji/AACHCIo_-QxmHeefIXvooxk7a?dl=0

A folder labeled 606-2019 will be created on the lab computer and each student will create a subfolder with their last name and all the images of the separate projects will be placed in individual subfolders. All digital images are to be renamed using the artifact number of the artifact if it has one or a descriptive name. Each photograph is to have the artifact number and a scale in the image. There will be a laboratory camera available and in some instance you may use your cell phone can be used. Photographs can be downloaded on the classroom computer.

LEARNING OUTCOME:
This course trains students with the techniques of stabilizing and preserving deteriorated or corroded artifacts from archaeological sites - land sites and underwater sites.Upon completing the course:
Each student will be able to appraise the conservation problems associated with the different archaeological materials and determine what conservation procedures are capable of solving the varied problems. Each student will be qualified to plan out strategies to conserve the basic materials encountered in most archaeological sites. Each student will know how to equip a basic conservation laboratory with the necessary equipment, chemicals, and expendables..

Class Grade: Each student will be graded on:

The Artifact Conservation Portfolio you prepare with the casting and other lab projects. Projects will be graded once they are turned in, allowing changes to be made before placing it in each student's portfolio. There is no set date for most of the projects. All the data in the portfolio are to be typed and each report will have a separate folder for each artifact and will be analogous to a formal, personal "Conservation Portfolio." You would present to an employer as examples of what you are capable of doing. Each report is to be typed.

Portfolio of individually graded projects and laboratory reports and conserved artifacts, molds, and casts.. 100%

The portfolio containing all laboratory reports is due by Friday, May 3, 2019 which is the end of the week following the last day of this class which is Thursday, April 25, 2019.

Please note. Often, you will be in many instances be working with numbered artifacts from an archaeological site. At all times you will keep the number with the artifact.
If you have an artifact or a project without a number, you are to assign it a unique number.

WARNING !!! DON'T EVER LET ANY ENCRUSTATION, ARTIFACT, OBJECT, MOLD OR CAST BE SEPARATED FROM ITS NUMBER.

Every conservation card, x-ray, drawing, notes, and digital images in the portfolio has to have the number recorded on it and have your name, as the conservator on the main CRL conservation card and all drawings. All the work you do on the artifact will be documented and dated. You will be responsible for the complete documentation, drawing, scaled drawing, photographing, x-raying and researching each artifact you process. Every record card, drawing, digital photograph file, photographs, and radiograph has to have to have the artifact number written on it. The majority of the photographic recording will be done with digital cameras or you can use you cell phone if the resolution is good. Scales are to be included in the photographs. You will be responsible for finding all the pertinent records that might be on file.

On each project you start, you are REQUIRED to fill out a Conservation Plan and fill out a CRL artifact Card for each project. A copy attached and the digital file for both conservation plan are posted on the shared DropBox folder and on the classroom computer, so you can print them out as needed. On the plan form will state the problem, and present a conservation plan, based on your own research of the conservation literature that addresses the problem at hand. The first draft of the conservation plan that is presented to me for review val can be written out, however, I prefer it to be typed if you handwriting is illegible. After the draft conservation plan, with any recommendations from me have been addressed, the final plan is to be printed on the form for my signed approval. A conservation plan without my approval signature is not worth the paper it is on. All plans must be approved before any work is started on the project.

Once the conservation or project is started, all the pertinent project data, such as artifact number, photographic film roll and frame, x-ray exposure, overall assessment and evaluation, are to recorded on a CRL artifact card any additional cards that may be required. After this is done, and only after this is done, you will give me the card with all the pertinent information, including, the artifact to be conserved, the field notes, the x-rays, and any photographic prints (if they have been printed), or printouts of the digital images. For the actual

conservation, a CRL Conservation Card will be used to record the process and become an official part of the records of the site when part of an official CRL project.. On a separate card, the before digital photograph will be printed. Additional photographs and radiographs will be printed on additional cards. Do not write or put data on the back of any card or sheet -- because it complicate the process of scanning the records in a PDF file..

On each project you will be expected to do it as well or better than I would do it. Sloppiness will not be tolerated. This year I will be expecting each student to strive for excellence and do as instructed and not deviate from the specifics of any assigned project.. The final lab report will be a compendium of your projects and will be presented as a portfolio e.g. the folder will demonstrate a series of artifacts being taken completely through the conservation processes with appropriate drawings, photographs of relevant stages of conservation, preliminary analysis, and proposal for conservation, actual conservation, final documentation, identification, and parallels. Every project will be put on separate sheets of paper in individual folders so that each artifact section can be extracted and inserted in the files. Do not write on the backs of the sheets. Include the treated artifacts, all documentation, molds, and casts.

Each conserved artifact, as much as possible, will be researched, identified, with all the necessary photographs, scaled drawing, and comparative data.

Required Projects

1. Each student will start by selecting, a number of artifacts to be conserved or cast. If available an encrustation is to be selected to be radiographed, and then cast any mold that might be present. if it happens to have a mold of an artifact -- and hopefully, some will. You will pull from the records all the data pertaining to each encrustation. If time permits, several encrustations may be selected. You should try to get a range of materials and/or different conservation problems requiring alternative conservation procedures. There is no reason for you ever to not have anything to do. Some students may do 10 or more encrustations or artifacts, other students may do fewer more complicated encrustation in addition to the ones requiring casting. One or more of the encrustations must or should contain a mold of an object that has to be cast. Students will not be allowed to take on a project that cannot be completed within the semester or is beyond their capability. All projects are to be completed before the end of the semester..

2. Each encrustation is to be photographed, with a scale and the artifact number placed below the encrustation (so it can be cropped if necessary). A print is to be made of the encrustation. (Several may be grouped together) Properly catalogued negatives and prints will be turned in as part of the lab project and where appropriate, included with your term paper. All digital photographs are to have the artifact number as part of the file name and all the photographs of each student are to be placed in individual folders on the graphics computer in the photographic studio. Any printed photograph is to have the artifact number recorded on it.

3. Each encrustation is to be x-rayed. Regardless, each student is required to use the x-ray machine and be a part of the lab project their x-rays. These will also be included with your paper. Each x-ray must be properly exposed and interpreted. In the past we made x-ray images using film and even photographic paper. For this class all x-rays will be digital unless an x-ray on sheet film would provide you with a better image. All radiographs are to have the artifact number prominently displayed – either part of the x-ray by using lead letters or labeled with ink.

.

All radiography is to be coordinated with DLH. Chris may also assist in radiography. On medium to large artifacts, it may not be possible to x-ray them. I will tell you when I think that it would be fruitless. In some instances, a difficult encrustation may be taken to CRL at The RELLIS Campus and x-rayed.

4. After gathering all the data, prints, and radiographs, each artifact will be evaluated and you will formally record the conservation procedure you plan to accord each encrustation. Once you have outlined your planned procedure, listing each step, then come to me to go over it. It is necessary for you to do all the background research and be aware of what has been done with this material and what is feasible before you come to me to go over it and sign off on it. After getting me to sign off on it, you may then proceed on the proposed treatment. Once you start, plans often change! You are encouraged to be imaginative, and where possible devise some sort of comparative or evaluation procedure. Consult the conservation bibliographies and references contained on the shared Class 605-6 Read Dropbox folder, and any other necessary reference, so you know what you are talking about and what you are proposing to do.

Again, it is expected that you have reviewed all the conservation alternatives that could be used on each material, before you present to me the conservation procedures on the Conservation Plan Card. This requires you to be familiar with the conservation literature or that you review it in order to submit the plan. One or more refernces in addition to the 605 Conservation Manual or its variations, is required on each conservation plan.

SHARED DROPBOX FOLDER.
Most of the conservation literature you might need to consult for information to design the conservation treatment can be found using the link provided below.

Link to reading in ANTH 606, Spring 2019 to be used to design the conservation plans.

https://www.dropbox.com/sh/s3ujccajsu42tji/AACHCIo_-QxmHeefIXvooxk7a?dl=0

5. You will be required to make a latex or silicone rubber peel of an appropriate object. The latex peel and a plaster cast of the peel will be turned in as a lab project.

6. You will be required to make a one piece, 3-dimensional silicone or latex rubber mold of an object and make a cast in plaster from the mold.

7. You will be required to make a two piece mold of an appropriate object, and make a cast of it. The mold and the cast is an assigned lab project. Maximum of two attempts.

8. You will be required to make an epoxy mold of a natural mold in an encrustation – depending on availability. The x-ray of the encrustation and the cast of the mold is to be turned in as a lab project. If appropriate, the cast, its scaled drawing, and possibly photograph will be included in your lab report.

9. You will be required to make a metal cast of an appropriate object by the lost wax process. For this exercise, you are required to make a mold using Ferris Mold Frames and a flexible molding compound. We once used See-Through Mold Compound, but it is no longer available. You are limited in the size of the object to be replicated by the size of the mold frames. The mold for the wax casting and a good metal cast is to be turned in as a lab report.
   No objects larger than the available mold frames can be used to make a lost wax cast.

No objects larger than the available mold frames can be used to make a lost wax cast.

No objects larger than the available mold frames can be used to make a lost wax cast.
NOTE! you do not have unlimited chances to repeat the entire process. More than two attempts require my permission. The lab is not a factory for the small scale production of metal casts. Obviously some students have abused this in the past. The entire process is fairly expensive and very time consuming. You can come up with an appropriate small object to cast or different artifacts from some source.

10. Every student will be required to process at least one metal artifact by electrolytic reduction. During electrolysis, each student will perform chloride titration tests and graph the results. Each student will be required to perform electromotive potentials on an artifact -- if I get the equipment operative -- possibly theirs, possibly a class object, during electrolysis. The results will be graphed. The chloride and electromotive potential measurements will be presented as a lab project, and where appropriate turned in with your term paper. This should be started as early as possible.

11. Either wood and/or rope samples will be processed with a silicone oil process. Any other projects that either you or I think of between now and the end of the semester.

12. Each student will take on the conservation of a model Chinese junk for experience dealing with ethnographic objects consisting of varnished, stained or painted wood, cloth, string, and metal, Junks are to be worked on when lee time is available.

Each portfolio will be graded on the in the quality of the conserved artifacts, molds and casts and the analyses of the products of the projects more than the quantity of conserved artifacts.

Summary: – ALL of these are required.
1. A good (or useable) x-ray of each encrustation or object and the interpretation of the radiograph.
2. Cast from a natural mold in an encrustation (if any are available).
3. Latex peels and casts of an object..
4. Single, 3-D solid latex mold of an object and cast.
5. Two piece mold of an object and cast.
6. Two piece mold of a projectile point using cans.
7. Metal cast of an object using lost wax process. Done only with assistance of DLH or other designated lab staff. It takes two to three people to do it safely.
8. Report on projects on conserved artifacts and casts above..
9. Model Junk
10. Your choices.

Lectures/class demonstrations:
1. Radiography – second week.
2. Casting, mold making, lost wax casting.
3. D.C. power supplies, how they work and how to build one from scratch.
   Electromotive measurements -- possibly
4. Silicone oil treatments
5. Individual help at all stages.

In my absence, a graduate assistant may supervise the class. When applicable, selected artifacts or objects may be selected to be scanned with a Faro laser and then printed on a 3-D Printer. Where applicable, XRF analysis of an object will be conducted.

All of this will be staggered through the semester. It is important that every one not work on the same projects at the same time. Each must work individually in order to maximize the limited facilities in the laboratory. Each student is to keep his work area orderly and clean up all messes, and wash or clean all equipment used in the lab.

Exact projects and course requirements are subject to minor changes and readjustments as the semester gets underway.

Plagiarism

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.
For ANTH 606, as long as you properly reference any material used in this class, stored on the shared Dropbox folder, or in the lab conservation manual, I have no problem with it.

As commonly defined, 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."

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.

Spring 2019

Artifact No./Description_____ **Project**_____

Student_____ **Date** _____

Photographic Record:

Digital File name_____ Before_____

During_____ After_____

X-ray: Digital _____ Film_____

Exposure: KVP_____ M-amps _____ Min/Sec _____

Evaluation: _____

_____

_____

_____

_____

Conservation/Treatment Plan:

State the problem. State your intent, cite references where necessary to support your case.
What alternatives were considered? How are you planning to solve the problem?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Add additional sheets if necessary)

On a separate sheet, List each conservation step with its planned intent.

Attachments: List:

Sources consulted _____

_____

Approved:_____

Donny L. Hamilton