INF 393C: Preservation Science and Practice  
Fall 2020  
Unique Number: 27265

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Canvas: https://utexas.instructure.com/courses/1282409

Course Meeting Times  
Wednesdays, 12 PM - 3 PM

Course Description  
Ever wondered how libraries and archives safeguard historical materials for future generations? Preservation is the answer. In this course, students learn collections care strategies that enable today’s information stewards to protect our growing cultural record. Scientific foundations and practical exercises will address common preservation challenges, such as environmental control, mold, insects, pollutants, and light damage. Modern topics in health, safety, and sustainability will highlight the developing nature of the field. Students will evaluate preservation risks for books, paper, electronic media, and other collections materials.

Learning Objectives  
By the end of this course, students should be able to:  
- Understand foundational mechanics of HVAC  
- Evaluate environmental conditions using a sling psychrometer  
- Use the psychrometric chart to assess preservation impact  
- Apply current sustainability standards to collections storage environments
- Collect and evaluate data on temperature, relative humidity, and light exposure
- Conduct and report upon integrated pest management
- Understand lifecycle and control of pests and mold
- Assess health and safety issues for preservation practitioners
- Compare and contrast storage needs and preservation risks for books, paper, electronic media, and other collections materials

Course Requirements

There are no prerequisites for this class. Students are expected to attend all classes and complete all reading assignments before each class meeting. There may be one or more off-site class meetings.

Assignments

Please submit all assignments via Canvas unless otherwise instructed. All assignments are due by the beginning of class on the due date. If you have a legitimate reason for an assignment to be late, please discuss it with me as early as possible.

Participation (15%)

Students will be responsible for leading class discussion of assigned readings on one class day. Discussion should include brief synopses of readings, relevance within preservation workflows, and several questions to spur engagement among classmates. Your presentation will serve as the springboard for our class discussion. Your participation grade will stem from your discussion leadership and active participation in the class.

Environmental Data Report (5-7 pages) (20%)

Use a sling psychrometer or environmental monitor to record environmental data at five different locations of your choice around UTA. Use the psychrometric chart to determine other environmental parameters in these areas. Use the Image Permanence Institute Dewpoint Calculator (online) to determine the Preservation Index and materials risks for these areas. Report your findings and explain what they mean. Are the areas you measured safe for collections storage? For what kinds of materials? (Cite references as necessary.) What types of damage might you observe in paper-based materials stored in these areas? What other observations can you make? Do you think the same air handler services all the areas you examined? (Hint: consider whether the observed temperatures and RHs point to the same dewpoint. See IPI’s Step-by-step Workbook: Achieving a Preservation Environment for Collections.)

Exhibit Lighting Recommendations Report (5 pages) (20%)
Choose three to five sample collection materials from the lab. Arrange them, half-covered, along with a blue wool card, also half-covered, beneath a bright lamp or other steady light source. Use a light meter to measure the illumination and UV coming from the lamp. Keep the lamp on for a week or more. Now, imagine you work with a curator who wants to display these materials in an upcoming exhibit. Write a short report for your curator describing the materials and making recommendations for acceptable light levels and exhibit duration. Refer to your blue wool test card and light readings to support your case. Please check with Sarah if you need help identifying substrate or media in your samples.

*Mold Prevention Report (5 pages) (20%)*

Read the short selection “Case Study Two: A Whiff of Mold? It Can’t Be!” from Miriam Kahn’s *Disaster Response and Planning for Libraries* (see Canvas.) Formulate a set of proactive maintenance guidelines for staff at the discussed library to prevent another mold outbreak. Support your recommendations with references as needed.

*Final Report: RFP for a Preservation Storage Facility (25%)*

A Request for Proposals (RFP) is a business document soliciting vendors to bid on contracted work. Students will write an RFP seeking a general construction contractor to build a new library and archives preservation storage facility. The RFP should include specific project description, scope, and goals. It should address environmental controls, HVAC, building envelope, lighting, pest management, and other issues. RFPs will be evaluated for clarity and thoroughness of presentation, assuming an audience of prospective vendors who do not have a background in libraries, archives, or preservation.

For this project, assume your varied collection includes books, manuscripts, photographs, and audiovisual materials. You’re seeking a 30,000 square foot facility on land your institution owns in the Austin area.

Sections in the RFP must include the following (and may include others as needed):

- **Project Introduction:** Briefly summarize your institution and project goals
- **Scope of Services:** Provide detailed descriptions of the features you want in your building. You may cite references or draw diagrams as needed to better explain preservation requirements to prospective vendors.
- **Proposal Requirements:** Describe what the vendor’s submission should look like. Do you want to see past experience? References? How can the vendor demonstrate they are the best candidate for you?
- **Evaluation of Proposals:** Describe how you will evaluate submitted proposals. You might devise a point system or other evaluation mechanism. Be sure your evaluation scheme accurately reflects your priorities, and that it’s clear and transparent enough to protect you from any appearance of favoritism.

Sample facilities construction RFPs:

Evaluation
Each assignment will count for the percentage of your course grade as listed after the assignment’s title above.

I will use the following schedule as the basis for calculating grades: A=95-100, A-=89-<95, B+= 84-<89, B=79-<84, B-=74-<79, C+=69-<74, C=64-<69, C-=60-<64, F=<60. Grades will be reduced by 2 points for every day they are late unless prior arrangements have been made.

Required Texts


This free, online text was developed by NEDCC with funding from IMLS, the Institute for Library and Museum Services. The text is used with NEDCC’s “Preservation 101” class. We will use it as a backbone for our course, and supplement its introductory material with additional readings.

Announcements

University of Texas Honor Code
Every student is expected to abide by The University of Texas Honor Code, which should be read and understood before taking any class. It can be found here: http://www.engr.utexas.edu/undergraduate/forms/462-university-of-texas-honor-code

Policy on Academic Integrity
Plagiarism will not be tolerated. You may fail the course, and/or be dismissed from the School of Information and/or the University if you are found plagiarizing. UT has a tutorial describing plagiarism here: http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism/

Documented Disability Statement
A student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities at 512-471-6259 (voice) or 512-232-2937 (video phone) or http://diversity.utexas.edu/disability/ Please let me know about anything that will help you succeed whether or not it is related to any disability.

Use of email for official correspondence
Email is recognized as an official mode of University correspondence. You are expected to maintain ongoing, current familiarity with class communications via email, and to contact me for any needed clarification.
Land Acknowledgement
We acknowledge that the iSchool sits on indigenous land. The Tonkawa lived in central Texas and the Comanche and Apache moved through this area. Today, various indigenous peoples from all over the globe visit Austin and/or call it home. We are grateful to be able to study and learn on this piece of Turtle Island. Since some of our classes are online, you may be contributing from other tribal lands. Here is a map that may help you in identifying the indigenous peoples of the land on which you study: https://native-land.ca/

Religious Holy Days
You must notify me at least 14 days in advance of any absence or accommodation for a religious holy day. We will determine an appropriate substitute on a case by case basis.

Class Recordings
Online class sessions will be recorded in Zoom. Class recordings are reserved only for the use of members of this class (students and the instructor) and only for educational purposes. Recordings should not be shared outside the class in any form. Violation of this restriction could lead to Student Misconduct proceedings.

Sharing of Course Materials is Prohibited
No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University’s Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

COVID-19 and Our Class
To help control the spread of COVID-19, this class will meet almost totally online. Two campus visits will be required: one at the beginning of the semester, to pick up a supply kit; and one at the end of the semester, to return the supply kit. We will schedule curbside pickup and drop-off sessions. Please remember to wear a mask when you visit campus.

Online class sessions will take place on the Canvas platform (canvas.utexas.edu), where class meetings are scheduled in Zoom. Please familiarize yourself with Canvas and Zoom before the first day of class. Please also observe the following guidelines to help Zoom sessions go smoothly:
● Close applications that will distract you during class (e-mail, social media, etc.)
● Use a headset or earbuds with a microphone, if possible.
● Mute yourself when not speaking.

Safety and Class Participation/Masks
We will all need to make some adjustments in order to benefit from in-person classroom
interactions in a safe and healthy manner. Our best protections against spreading COVID-19 on campus are masks (defined as cloth face coverings) and staying home if you are showing symptoms. Therefore, for the benefit of everyone, this means that all students are required to follow these important rules.

*Every student must wear a cloth face covering properly in class and in all campus buildings at all times.* If a student is not wearing a cloth face covering properly in the classroom (or any UT building), that student must leave the classroom (and building). If the student refuses to wear a cloth face covering, class will be dismissed for the remainder of the period, and the student will be subject to disciplinary action as set forth in the university’s Institutional Rules/General Conduct 11-404(a)(3). Students who have a condition that precludes the wearing of a cloth face covering must follow the procedures for obtaining an accommodation working with Services for Students with Disabilities.

For the safety of our community, every student is strongly encouraged to do daily symptom screening, which is available using the Protect Texas Together app. Once the symptom screening is completed, it will inform students whether they are cleared to come to campus. Students should only come to campus if the symptom screening app clears them to do so. Otherwise, students should isolate and contact a medical professional for further guidance before coming to campus again.

Information regarding *safety protocols with and without symptoms* can be found here.

**COVID Reporting**
To help keep everyone at UT and in our community safe, it is critical that students report COVID-19 symptoms and testing, regardless of test results, to University Health Services, and faculty and staff report to the HealthPoint Occupational Health Program (OHP) as soon as possible. Please see this link to understand what needs to be reported. In addition, to help understand what to do if a fellow student in the class (or the instructor or TA) tests positive for COVID, see this University Health Services link.

**Course Schedule** [https://registrar.utexas.edu/calendars/20-21](https://registrar.utexas.edu/calendars/20-21)

**Week 1: 8/26 (Please note: each week’s readings must be completed before class for discussion during class.)**
**Introduction to Preservation and Paper-Based Materials**
- Introduce class and syllabus
- Become acquainted with lab access and safety
- Select students to lead discussion on each week’s readings
- Discuss readings

**Readings**

Week 2: 9/2
The Preservation Environment: Temperature, Relative Humidity, and Their Impact on Collections
-Discuss readings
-In-class exercise: students explore the hygroscopic nature of paper by flattening varied samples with and without humidification.

Readings
This chapter introduces many interrelated topics we will explore in further detail in the coming weeks. This week, focus especially on “The Storage Environment.”

Week 3: 9/9
HVAC and Buildings: Creating Controlled Environments
-Discuss readings
-In-class exercise: The class will make a simple air-conditioner. Then we will brainstorm and test design modifications to produce lower RH and/or temperature. This exercise will demonstrate some of the fundamental properties that underlie climate control for preservation.

Readings


**Week 4: 9/16**

**The Psychrometric Chart: Evaluating Environment the Analog Way**

- Discuss readings
- In-class exercise: students use the psychrometric chart to solve word-problem-style questions.

**Readings**


Relative Humidity Table (See Canvas.)

Mecklenburg, M.F., 2007. Determining the acceptable ranges of relative humidity and temperature in museums and galleries. Smithsonian Museum Conservation Institute, Suitland, MD.

**Week 5: 9/23**

**Environmental Data Gathering**

- Discuss readings
- In-class exercise: students use a sling psychrometer or other available environmental monitors to evaluate environmental conditions within UTA. Assign and begin working on Environment Data Report as time allows.

**Readings**


**Week 6: 9/30**

**Assignment Due: Environment Data Report**

**Pollutants and Acidity**

- Discuss readings
- In-class exercise: investigate the acidity of varied collection materials and collection storage materials.

**Readings**


Revisit this source from Week 2 and focus on Section 2.3, Gaseous Contaminants; Section 2.4, Particulates; and Section 5, Air Contaminants.


Focus on Chapter 1, Gaseous Pollutants in Museum Environments: Overview; Chapter 2, The Effects of Gaseous Pollutants on Objects; and Appendix 1, Major Gaseous Pollutants of Concern to Museums, Their Sources, and At-Risk Materials.

Week 7: 10/7

**Describing and Measuring Light and Color**

- Discuss readings
- In-class exercise: students set up light testing with blue wool cards and sample collection materials. Take light readings and UV readings in preparation for the Exhibit Lighting Recommendations Report.

**Readings**


**Week 8: 10/14**

**How Light Causes Damage**

- Discuss readings
- In-class exercise: evaluate light testing results. Assign and begin work on Exhibit Lighting Recommendations Report.

**Readings**


**Week 9: 10/21**

**Assignment Due: Exhibit Lighting Recommendations Report**

**Lifecycle of Pests and Mold**

- Discuss readings
- Zoom visit to view and mold-damaged documents and discuss their storage and provenance: Tonia Wood, Reference Archivist, Texas State Library and Archives Commission.
- Assign Mold Prevention Report

**Readings**


- Pest Fact Sheets: https://museumpests.net/identification/identification-pest-fact-sheets/
- Identification Image Library: https://museumpests.net/identification/identification-image-library/

Week 10: 10/28
Controlling Pests and Mold
- Discuss readings
- Guest speaker on IPM: Alan Van Dyke, Senior Preservation Technician, Harry Ransom Center.

Readings

Week 11: 11/4
Assignment due: Mold Prevention Report
Health & Safety
- Discuss readings
- In-class exercise: Using OSHA and NIOSH guidelines, students will work together to rank a set of conservation lab chemicals according to their level of human risk.

Readings
Week 12: 11/11
Sustainability
- Discuss readings
- In-class exercise: Class will run a miniaturized simulation of how collections materials buffer environmental fluctuations in a storage facility. This buffering is part of what enables recommendations for sustainable seasonal drift.
- Assign RFP

Readings
Please look through all sections: Introduction to Sustainability; Sustainable Material Use and Disposal; Information about Specific Materials; Sustainable Energy Use; Sustainability Case Studies.

Week 13: 11/18
Varied Media, Varied Risks
- Discuss readings
- In-class exercise: student teams assume curatorial roles over varied collections materials in a fictional institution. Through a table-top decision-making exercise, the teams formulate facilities and storage priorities for their institution’s director.

Readings
https://www.nedcc.org/preservation101/session-5 and
https://www.nedcc.org/preservation101/session-6

**Week 14: 12/2**  
**Wrap-Up**  
- Discuss any remaining or new issues  
- Work time for RFPs

**12/7: Last Class Day**  
*Assignment Due: Final Report: RFP for a Preservation Storage Facility.*