

INF 393C: Preservation Science and Practice

Fall 2021

Unique Number: 28690

Instructor: Sarah Norris

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Office hours: As needed by appointment, in person or online.

Canvas: **xxx**

Course Meeting Times

Wednesdays, 12 – 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
- Use the psychrometric chart to assess preservation impact
- Collect and evaluate data on temperature, relative humidity, and light exposure
- Apply modern sustainability standards to collections storage environments
- Understand lifecycle and control of pests and mold

- Evaluate integrated pest management strategies
- 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.

Required Texts

Northeast Document Conservation Center. *Preservation 101: Preservation Basics for Paper and Media Collections, Online Textbook*. Available online at:
<https://www.nedcc.org/preservation101/welcome>

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.

All other course readings are available in the Files section of our Canvas page or online.

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 pts)

Assigned Week 1; completed throughout the semester.

Students are responsible for making substantive contributions to class discussions to help guide the direction of the class. When possible, use our readings and resources as the foundation for your commentary. Students should also be active and inquisitive participants in hands-on exercises. When your neighbors are working with different materials, or have different outcomes, learn from that. Attendance and tardiness are also part of the participation grade.

Topical Presentation (15 pts)

Assigned Week 1; completed throughout the semester.

Students will be responsible for leading class discussion of assigned readings or topics on one class day. Discussion should include brief synopses of readings, relevance within preservation workflows, and several questions to spur engagement among classmates. This is your chance to

take ownership of and teach a topic. Your presentation will serve as a springboard for our class discussion. Student-led discussions should last about 30 minutes and cover specific readings as assigned.

Environmental Data Report (8-10 pages) (20 pts)

Place monitors Week 4; Report Assigned Week 6; due Week 8.

The class will place environmental monitors in approximately five locations in UTA to record data for two weeks. Using our shared data, write an individual report to summarize your findings (use graphs) and assess the suitability of the observed areas for archives storage. Your analysis should include the following:

- Use the psychrometric chart to determine environmental parameters beyond temperature and RH in these areas. Base your analysis on a mean temperature and RH value in each observed area.
- Use the Image Permanence Institute Dewpoint Calculator (online) to determine the materials risks for these areas, including the Preservation Index and risks of mechanical damage, mold, and metal corrosion. Base your analysis on a mean temperature and RH value in each observed area.
- Consider the following analysis questions:
 - 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?
 - Do you think the same air handler services all the areas you examined? (Hint: one air handler produces one dewpoint.)
 - Do you see patterns in your data? Does it track with outdoor or other conditions?

Exhibit Lighting Recommendations Report (8-10 pages) (20 pts)

Place tests Week 1; report assigned Week 9; due Week 11.

Choose three to five sample collection materials from the lab. Arrange them, half-covered, along with a blue wool card, also half-covered, under the fluorescent lights in the UTA 1.506 exhibit area. Use a light meter to measure the illumination and UV in the area. Begin the test in Week 1 and let it run through Week 9. **Check your samples at least weekly to record the time of first-observable fade.**

Now, imagine you work with a curator who wants to display materials like these in an upcoming exhibit. Write a report for your curator describing the materials and assessing their lightfastness using the blue wool card and the total calculated light exposure. Make recommendations for acceptable light levels and exhibit duration. Refer to your blue wool test card and light readings to support your case. Use the guidelines from our class readings (Wagner, Colby, UD ASTM, etc.) to supplement your findings. Please check with Sarah if you need help identifying substrates or media in your samples.

Consider the following questions in your analysis:

- How did your materials perform in your fading test as compared with a blue wool card? (Describe the test parameters.)

- Can you place your materials on proposed light sensitivity scales, as relevant? (Consider Wagner/McCabe/Lemmen, Colby, or UD ASTM.) Does the calculated total light exposure in your fading test support this assessment?
- How long could you reasonably display your materials, and under what brightness? Suggest several display plans. (Recall that a shorter, brighter display yields the same cumulative exposure as a longer, dimmer display.)
- How frequently might you recommend displaying your materials? (See Wagner/McCabe/Lemmen and others.)
- What might be the consequences of displaying your materials too long? (Cite references for specific materials as needed.)
- What display alternatives could you propose, if needed?

Final Report: RFP for a Preservation Storage Facility (10-20 pgs, as needed) (30 pts)

Assigned Week 13; due last class day (12/5.)

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 20,000 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.

Evaluation and Writing Guidelines

I will use the following schedule as the basis for calculating grades: A=95-100, A-=90-<95, B+ = 85-<90, B=80-<85, B-=75-<80, C+=70-<75, C=65-<70, C-=60-<65, F=<60. Grades will be reduced by **2 points** for every day they are late unless prior arrangements have been made.

In all assignments, it's always a good idea to cite class readings and related sources. This makes your work more authoritative and it lets me see that you've read and thought about class materials.

In your assignments, please strive for accurate, concise, and well-organized writing that showcases your understanding of the topics at hand. My primary goal is to assess your mastery of these topics, rather than your writing. However, if your writing hinders the successful communication of your understanding, I will then grade writing by necessity. For writing assistance, please see the [University Writing Center](#).

A few writing tips specific to this class:

- Title submitted files as follows: “(Last Name)_(Assignment Title.)”
- Use double spacing.
- Use [APA Guidelines](#) for in-text citations and a reference list.
- Strive for clear topic sentences and closing statements.
- Ensure that your sentences and paragraphs build sequentially upon one another.
- Use fewer words whenever possible.
- Avoid using scare quotes whenever possible.
- Use single quotes in only one instance: a quote inside a quote.
- Use ellipses only to indicate words or ideas omitted for brevity.
- Be precise with pronouns, especially the word “they.” APA Guidelines tell us:
 - “He/him/his” and “she/her/hers” are singular and gendered.
 - “They/their” is plural.
 - “They/their” may also be singular in several special cases:
 - When a singular person identifies with more than one gender. Ex: Casey is a gender-fluid person. They are from Texas and enjoy tacos.
 - When gender is unknown. Ex: The cup of coffee is theirs. (His? Hers? We don't know.)
 - When it's bulky and awkward to say “he or she,” “him or her,” or “his or hers.” Ex: Each child played with their (instead of “his or her”) parent. Please note, this usage is the least formal, and there's often a way to write around it.

UT Notices and 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.

Official Class Correspondence

E-mail is recognized as an official mode of University correspondence. Please maintain ongoing, current familiarity with class communications via email, and contact me for any needed clarification.

Additionally, our class uses Canvas to host readings, post announcements, submit assignments, and return grades. You are welcome to message me directly through this platform.

Land Acknowledgement

We would like to acknowledge that we are meeting on Indigenous land. Moreover, (I) We would like to acknowledge and pay our respects to the Carrizo & Comecrudo, Coahuiltecan, Caddo, Tonkawa, Comanche, Lipan Apache, Alabama-Coushatta, Kickapoo, Tigua Pueblo, and all the American Indian and Indigenous Peoples and communities who have been or have become a part of these lands and territories in Texas.

Personal Pronoun Preference

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name, unless they have added a "preferred name" with the Gender and Sexuality Center, which you can do so here: <http://diversity.utexas.edu/genderandsexuality/publications-and-resources/>. I will gladly honor your request to address you by a name that is different from what appears on the official roster, and by the gender pronouns you use (she/he/they/ze, etc). Please advise me of any changes early in the semester so that I may make appropriate updates to my records. For instructions on how to add your pronouns to Canvas, visit <https://utexas.instructure.com/courses/633028/pages/profile-pronouns>.

Religious Holy Days

By UT Austin policy, you must notify me of your pending absence as far in advance as possible to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Title IX Reporting

Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.

2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university's relevant policies.

Faculty members and certain staff members are considered “Responsible Employees” or “Mandatory Reporters,” which means that they are required to report violations of Title IX to the Title IX Coordinator. **I am a Responsible Employee and must report any Title IX-related incidents** that are disclosed in writing, discussion, or one-on-one. Before talking with me or with any faculty or staff member about a Title IX-related incident, be sure to ask whether they are a responsible employee. If you want to speak with someone for support or remedies without making an official report to the university, email advocate@austin.utexas.edu For more information about reporting options and resources, visit the Title IX Office or email titleix@austin.utexas.edu.

Class Recordings

Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

Online Class Components

All students must use a UT Zoom account in order to participate in classes, office hours, and UT affiliated events.

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 without explicit, written permission of the instructor. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. The University is well aware of the sites used for sharing materials, and any materials found on such sites that are associated with a specific student, 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 of the course.

Classroom Safety and COVID

- Pending UT policy, Fall 2022.

Course Schedule <https://registrar.utexas.edu/calendars/22-23>

Week 1: 8/24 (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 and view relevant archives materials
- Start fade test, to conclude in Week 9

Readings

Northeast Document Conservation Center. *Preservation 101: Preservation Basics for Paper and Media Collections, Online Textbook*. "Session 1: Introduction to Preservation" and "Session 4: Caring for Paper Collections." Accessed May 2020 at <https://www.nedcc.org/preservation101/session-1> Within Session 4, focus especially on "Papermaking;" "Inherent Vice: Materials;" "Inherent Vice: Structures;" and "External Factors."

Week 2: 8/31

Introduction to Paper Chemistry; Temperature and Relative Humidity

- Lecture & discussion: paper chemistry and analytical techniques (Daniels, *AIC Wiki*)
- Discuss environmental storage guidelines (NEDCC; Wilson) - student
- In-class exercise: papermaking

Readings

Daniels, Vincent. "Paper." In May, Eric, and Mark Jones, eds. *Conservation Science Heritage Materials*. Cambridge, U.K: RSC Pub., 2006.

American Institute for Conservation. *AIC Wiki: Instrumental Analysis*. Accessed December 2020 at: http://www.conservation-wiki.com/wiki/Category:Instrumental_Analysis Skim this page for now, and keep it as a reference for the analytical techniques you'll encounter in readings throughout the semester.

Northeast Document Conservation Center. *Preservation 101: Preservation Basics for Paper and Media Collections, Online Textbook*. "Session 2: The Building and Environment." Accessed May 2020 at <https://www.nedcc.org/preservation101/session-2>

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

Wilson, W. NISO TR-01 1995: *Environmental Guidelines for the Storage of Paper Records*. 1995: NISO Press, Bethesda, MD.

Week 3: 9/7

HVAC, Buildings, and Enclosures: Creating Controlled Environments

- Lecture and discussion: HVAC mechanics and standards (Padfield; Conrad)
- Discuss readings on controlling environment in building design and enclosures (NEDCC, Ogden, NARA, Schonbohm) - student
- 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

Northeast Document Conservation Center. *Preservation 101: Preservation Basics for Paper and Media Collections, Online Textbook*. “Session 2: The Building and Environment.” Accessed May 2020 at <https://www.nedcc.org/preservation101/session-2> Focus especially on “General Building Issues” and “Controlling the Environment.”

Ogden, Barclay. *Collection Preservation in Library Building Design*. 2003: Libris Design Project and Institute of Museum and Library Services.

Conrad, Ernest. “SAA Integrates with ASHRAE.” *ASHRAE Transactions* 116 (2010): 203–206. Web.

Padfield, T. (2000). *How air conditioning works*. Retrieved April, 2020, from <https://www.conservationphysics.org/aircon/aircon.pdf>

National Archives and Records Administration. *Archives II: National Archives at College Park*. NARA Technical Information Paper 13, 1997.

Schönbohm, Dirk et al. “Protective Enclosures for Art on Paper, Archives and Library Materials.” *Restaurator* 31.3-4 (2010): 286–303.

Week 4: 9/14

The Psychrometric Chart: Evaluating Environment the Analog Way

- Lecture & discussion: Using the psychrometric chart
- In-class exercise: student pairs use the psychrometric chart to solve word-problem-style questions.
- Discuss application of environmental parameters (Mecklenburg) - student
- Launch environmental monitors for Environmental Data Report

Readings

Sherif, S. “Overview of Psychrometrics.” *ASHRAE Journal* 44.7 (2002): 33.

Traub, Darren A. “The Psychrometric Chart: How to Use it. (Drying Files).” *Process Heating* 10.8 (2003).

Overbey, Daniel. “The Psychrometric Chart Explained.” *Building Enclosure* (2018).

Gatley, Donald. “Psychrometric Chart Celebrates 100th Anniversary.” *ASHRAE Journal* 46.11 (2004): 16–20.

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: 9/21

HVAC and Psychrometrics in the Real World

Guest Speaker: Joe Reyes, Principal, MEP Engineering

- Joe Reyes will share his experiences designing HVAC at cultural institutions; discuss how preservation staff and HVAC engineers can communicate effectively; and much more.

Week 6: 9/28

Environmental Data Gathering

- Discuss readings - student
- Demonstrate and discuss environmental monitors: hygrometer, sling psychrometer, aspirating psychrometer, dataloggers
- Explore Dewpoint Calculator
- Gather environmental monitors; make a plan to share data with class
- Assign and begin working on Environmental Data Report as time allows.

Readings

- Northeast Document Conservation Center. *Preservation 101: Preservation Basics for Paper and Media Collections, Online Textbook*. "Session 2: The Building and Environment." Accessed May 2020 at <https://www.nedcc.org/preservation101/session-2> This week, focus especially on "Monitoring the Environment."
- Ntanos, Konstantinos and W. Wei. "Environmental Monitoring." In *Preventive Conservation: Collections Storage*, Lisa Elkin & Christopher Norris, eds. 2019: Society for the Preservation of Natural History Collections and the American Institute for Conservation. Focus especially on monitoring of temperature and relative humidity.
- Nishimura, D. *Understanding Preservation Metrics*. Image Permanence Institute: 2011.
- Arenstein, R. and S. Alderson. *Comparing Temperature and Relative Humidity Dataloggers for Museum Monitoring*. September 2011: National Parks Service Conserve-O-Gram 3.3
- Iowa Department of Transportation. *Determining Relative Humidity with a Sling Psychrometer*. See Canvas.

Week 7: 10/5

Pollutants and Acidity

- Discuss pollutant and dust readings (Wilson; Grzywacz; Lloyd) - student
- Lecture and discussion: acid degradation (Dupont & Shahani)
- In-class exercise: investigate the acidity of varied collection materials and collection storage materials.

Readings

- Wilson, W. NISO TR-01 1995: *Environmental Guidelines for the Storage of Paper Records*. 1995: NISO Press, Bethesda, MD. Revisit this source from Week 2 and focus on Section 2.3, Gaseous Contaminants; Section 2.4, Particulates; and Section 5, Air Contaminants.
- Grzywacz, C. M. (2006). *Tools for conservation. Monitoring for gaseous pollutants in museum environments*. Los Angeles: Getty Conservation Institute. 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
- Lloyd, Helen, Peter Brimblecombe, and Katy Lithgow. "Economics of Dust." *Studies in Conservation* 52.2 (2007): 135–146.
- Dupont, A.-L. & J. Tetreault (2000) "Cellulose Degradation in an Acetic Acid Environment," *Studies in Conservation*, 45:3, 201-210, DOI: [10.1179/sic.2000.45.3.201](https://doi.org/10.1179/sic.2000.45.3.201)
- Shahani, Chandru & Gabrielle Harrison (2002) SPONTANEOUS FORMATION OF ACIDS IN THE NATURAL AGING OF PAPER, *Studies in Conservation*, 47:sup3, 189-192, DOI: [10.1179/sic.2002.47.s3.039](https://doi.org/10.1179/sic.2002.47.s3.039)

Week 8: 10/12

Assignment Due: Environmental Data Report

Fundamentals of Light, Color, and Fading

- Lecture and discussion: color science and the blue wool standard
- In-class exercise: The Light and Color Petting Zoo

Readings

- Saunders, David. *Museum Lighting: A Guide for Conservators and Curators*. Los Angeles: The Getty Conservation Institute, 2020. Chapters 1 & 2. <https://muse-jhu-edu.ezproxy.lib.utexas.edu/book/78777>
- Michalski, Stefan. *Agent of Deterioration: Light, Ultraviolet, and Infrared*. Canadian Conservation Institute. Accessed February 2021 at <https://www.canada.ca/en/conservation-institute/services/agents-deterioration/light.html>. Start at the section “Deterioration by Light, UV, and IR.”

Week 9: 10/19

Assessing and Preventing Light Damage

- Discuss readings - student
- View previous fading tests
- Practice cumulative light exposure calculations
- In-class exercise: evaluate fade testing results (started Week 1.) Record light levels at test site.
- Assign and begin work on Exhibit Lighting Recommendations Report, due Week 11.

Readings

- Conn, Donia. *Protection from Light Damage*. 2012: NEDCC Preservation Leaflet 2.4.
- Wagner, Sarah, Connie McCabe, and Barbara Lemmen. (2007). *Guidelines for Exhibition Light Levels for Photographic Materials*. Retrieved April 2020 from <http://download.aaslh.org/AASLH-Website-Resources/ccaha-guidelines-for-exhibition-light-levels.original.pdf> (See Canvas.)
- Colby, Karen. “A Suggested Exhibition Policy for Works of Art on Paper.” *Journal of the International Institute for Conservation - Canadian Guild* 17. 1992.
- University of Delaware Materials Information and Technical Resources for Artists. “ASTM and Lightfastness of Media.” Accessed December 2020. See Canvas.
- Venosa, Andrea, Daniel Burge, and Douglas Nishimura. "Effect of Light on Modern Digital Prints: PHOTOGRAPHS AND DOCUMENTS." *Studies in Conservation* 56, no. 4 (2011): 267-80.

Week 10: 10/26

EEK: Mold!

Guest Speakers: Tonia Wood (Reference Archivist,) Peggy Price (Education & Outreach Officer,) and Heather Hamilton (Conservator) from the Texas State Library and Archives Commission: 1:45 PM, at TSLAC if they're open to the public, or via Zoom.

- Discuss readings - student

- TSLAC speakers will share their preservation and access strategies for mold-damaged materials
- Assign Mold Prevention Report

Readings

- Sterflinger, K. "Fungi: their role in deterioration of cultural heritage." *Fungal Biological Reviews* 24 (2010): 47–55. doi:10.1016/j.fbr.2010.03.003.
- Brokerhof, A. W., Zanen, W. B., Teuling, A. J. M. *Fluffy Stuff: Integrated Control of Mould in Archives*. Amsterdam: Netherlands Institute for Cultural Heritage (ICN) and IADA, 2007a.
- National Park Service. *Conserve O Gram 3/4: Mold and Mildew: Prevention of Microorganism Growth in Museum Collections*. 2007.
- U.S. Environmental Protection Agency. *Introduction to Mold and Mold Remediation for Environmental and Public Health Professionals*. Chapters 1, 2, 3, and 9. Accessed May 2020 at <https://www.epa.gov/mold/mold-course-chapter-1>; also available on Canvas.

Week 11: 11/2

Assignment Due: Exhibit Lighting Recommendations Report

EEK: Pests!

Guest Speaker: Alan Van Dyke, Senior Preservation Technician, Harry Ransom Center

- Discuss readings – student
- Alan Van Dyke will discuss his experiences with IPM and facilities management

Readings

- Integrated Pest Management Working Group. *MuseumPests.net*. Accessed May 2020. Focus on three sections of this website:
- Pest Fact Sheets: <https://museumpests.net/identification/identification-pest-fact-sheets/>
 - Identification Image Library: <https://museumpests.net/identification/identification-image-library/>
 - The Dirty Dozen of Museum Pests: <https://museumpests.net/wp-content/uploads/2015/04/Insects-Limited-Museum-Dirty-Dozen-single-sheet-A4.pdf>
- Brokerhof, A. W., Zanen, W. B., Watering, K., Porck, H. *Buggy Biz: Integrated Pest Management in Collections*. Amsterdam: Netherlands Institute for Cultural Heritage (ICN) and IADA, 2007b.
- Parker, Thomas. *Preservation Leaflet 3.10: Integrated Preventive Pest Management*. 2015: Northeast Document Conservation Center.
- Ryder, Suzanne, and Armando Mendez. "Using Risk Zones in Museums as Part of an IPM Programme: Does It Work?" *Studies in Conservation* 64.4 (2019): 203–207.

Week 12: 11/9

Health & Safety

- Lecture and discussion: understanding chemical labels and guidelines; respirators & PPE
- Demonstrate lab health and safety features; proper use of PPE
- Discuss readings (Pettigrew; Bolstad-Johnson; Martinez-Kilgore; Tedone) - student
- In-class exercise: Adopt-A-Chemical - use labels and guidelines to assess risks

Readings

- Occupational Safety and Health Administration. *Hazard Communication Standard: Labels and Pictograms*. DSG BR-3636 2/2013.
- Occupational Safety and Health Administration. *Hazard Communication Standard: Safety Data Sheets*. DSG BR-3514 2/2012.
- National Fire Protection Association. *Frequently Asked Questions on NFPA 704*. Accessed December 2021 at https://www.nfpa.org/assets/files/aboutthecodes/704/704_faqs.pdf. See Canvas.
- Centers for Disease Control and Prevention. *NIOSH Pocket Guide to Chemical Hazards*. Accessed January 2021 at: <https://www.cdc.gov/niosh/npg/default.html>
- Colton, Craig. *A Conservator's Guide to Respiratory Protection*. 2016: American Institute for the Conservation of Historic and Artistic Works, Washington, D.C.
- Centers for Disease Control and Prevention. *PPE Sequence*. CS250672-E.
- Pettigrew, H. et al. "Mold and Human Health: Separating the Wheat from the Chaff." *Clinical Reviews in Allergy & Immunology* 38.2-3 (2010): 148–155.
- Bolstad-Johnson, Dawn. "The Hidden Hazards of Fire Soot." *AIC News* 35:5. September 2010: American Institute for Conservation of Historic and Artistic Works, Washington, D.C. pp. 1, 3-5.
- Martinez-Kilgore, JoAnne. "Rodents and Risks to Cultural Heritage Custodians." *AIC News* 46(5). September 2021: American Institute for Conservation of Historic and Artistic Works, Washington, D.C. pp. 1, 5-8.
- Tedone, Melissa. "Poison Book Project." Accessed April 2020 at http://wiki.winterthur.org/wiki/Poison_Book_Project

Week 13: 11/16

Sustainability

- Discuss readings - student
- In-class exercise: small-scale exploration of environmental impacts of insulation and buffering
- Assign RFP

Readings

- Henry, Michael. *What Will the Cultural Record Say About Us? Stewardship of Culture and the Mandate for Environmental Sustainability*. 2007: Gray Areas to Green Areas Conference at the University of Texas. Accessed May 2020 at <https://www.ischool.utexas.edu/kilgarlin/gaga/proceedings2008/GAGA07-henry.pdf> See Canvas.
- Ryhl-Svendsen, Marten, Lars Aasbjerg Jensen, Poul Klensz Larsen, and Tim Padfield. *Does a Standard Temperature Need to Be Constant?* 2010: Going Green Conference at the British Museum. Accessed May 2020 at <http://www.conservationphysics.org/standards/standardtemperature.php> See Canvas.
- Image Permanence Institute. *Implementing Sustainable Energy-Saving Strategies in Collections Environments*. IPI: 2017. Energy-Saving Strategies, pp 96-145.
- Hong, Sung H et al. "Climate Change Mitigation Strategies for Mechanically Controlled Repositories: The Case of The National Archives, Kew." *Atmospheric Environment* 49 (2012): 163–170.

Lee, Joyce and Kelly Krish. "Microclimates: A Greener Future for Collections Care." *American Alliance of Museums Blog* 7/21/21. Accessed Feb. 2022 at: <https://www.aam-us.org/2021/07/21/microclimates-a-greener-future-for-collection-care/>

Fall Break, 11/12 – 11/25

Week 14: 11/30

Plastics, Photographs, and Audiovisual Media

- Lecture and discussion: Plastics and Archives Media
- Discuss readings (focus especially on storage, housing, and handling) – student
- In-class exercise: student teams assume curatorial roles over varied collections materials in a fictional institution. Through a group decision-making exercise, the teams formulate facilities and storage priorities for their institution's director.

Readings

Northeast Document Conservation Center. *Preservation 101: Preservation Basics for Paper and Media Collections, Online Textbook*. "Session 5: Care and Handling of Photographs" and "Session 6: Media Collections." Accessed May 2020 at <https://www.nedcc.org/preservation101/session-5> and <https://www.nedcc.org/preservation101/session-6>

Hess, Richard. "ARSC Conference Paper - Tape Degradation Factors and Challenges in Predicting Tape Life." *ARSC Journal* 39.2 (2008): 240–274. Web.

Bereijo, Antonio. "The Conservation and Preservation of Film and Magnetic Materials (1): Film Materials." *Library Review* 53.5/6 (2004): 323–331. Web.

12/5: Last Day of Fall 2022

Assignment Due: Final Report: RFP for a Preservation Storage Facility.