

**SCHOOL OF INFORMATION
UNIVERSITY OF TEXAS AT AUSTIN**

MATERIALS IN LIBRARIES, ARCHIVES AND MUSEUMS

Lecturer: Karen Pavelka, UTA 5.422
Meeting time: Wednesday, 9-12, UTA 1.506B
Office hours: Wednesday 2-4 in Paper Lab and by appointment
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Lab phone: 471-8269 Office phone: 471-8286
Teaching assistant: Ayse Gursoy (agursoy@ischool.utexas.edu)

Course Overview:

Underlying factors in the physical nature of records materials; concepts of permanence and durability and their assessment; basic concepts of materials science; materials found in library, archive and museum collections, especially manuscripts, books and photographic processes. Context of conservation and preservation practice.

Objectives:

1. To impart understanding of the materials frequently encountered in library, archives and museum collections through emphasis on common, underlying factors of stability and deterioration.
2. To allow the student to gain an understanding of the conservation and preservation literature.
3. To emphasize the importance of understanding classes of materials, similarities and differences.
4. To learn to identify and investigate components of objects and assess stability.
5. Secondary emphasis will be placed on methods of fabrication, especially as they relate to durability or physical toughness of materials.
6. Historical development of materials will be discussed especially where it is relevant to understanding the range of materials likely to be encountered and where it bears on lasting qualities.

Required texts

Benson, R. (2008). *The printed picture*. New York: Museum of Modern Art. The companion website to this book can be found at: <http://www.benson.readandnote.com/videos/woodcut-printing> Accessed July 30, 2014.
Boersma, F. (2007). *Unravelling textiles: A Handbook for the preservation of textile collections*. London: Archetype
Jurgens, M. (2009). *The digital print: Identification and preservation*. Los Angeles: Getty Conservation Institute.
Lavedrine, B. (2003). *A guide to the preventive conservation of photograph collections*. Los Angeles: Getty Conservation Institute.

Required readings

Students are responsible to have read all the readings listed on the syllabus before class and are expected to come to class prepared to discuss them. Every week in class we will review the readings for the next week and I will let you know which are the most important, which are trivial and just for fun, and which will be over your heads. There are many more books, journals, samples etc. in UTA 1.506 and you are welcome to use any of the materials in that room. Please do not remove anything from 1.506 without my specific permission for each item.

Assignments

Research Paper

A research paper is required for this class. The objective of the paper is to provide you with experience in framing a question about the nature of materials, becoming familiar with the resources available for conservation and preservation technology, evaluating citations critically, and communicating with colleagues. It is an opportunity to read about something that interests you. **The topic must be approved by the instructor.** Selected papers from

previous classes are stored in manuscript boxes in 1.506. They may provide inspiration if you are looking for a topic.

The paper will be submitted in four stages:

- **The topic will be chosen by September 10.** Students will post their thesis question or statement to Canvas where it will be shared with other class members. Post the file in the folder titled *Paper topics due September 10*. Title the file: Yourlastname_topic using a one word summary for your paper and no spaces in the title. (For instance, if I were writing a paper on the subtleties of deterioration of gum bichromate prints I would title it: Pavelka_gumprints) Please submit all assignments as Word documents, not as PDFs or in any other format.
- **A complete paper including the bibliography is due SUNDAY November 9.** This version of the paper is to be posted on Canvas in the folder titled *Draft research papers* where it will be accessible to the rest of the class. This version will not be graded but I will offer comments on the draft; it is intended to promote an exchange of ideas and observations. Title the file Yourlastname_draft
- **November 12 & 19** Each student will sign up for a time to lead a discussion about his or her research. The discussion might include a brief summary of the work; impediments or successes encountered, especially if you found a useful research technique or source; suggested areas for further research; others areas as appropriate. It should not be merely a summary of the content of your paper and you should prepare questions for discussion. The discussion format may vary according to class size.
- **The final copy is due Friday, December 5; please post directly to Canvas.** *This version will be graded.* Selected paper copies will be kept on file in UTA 1.506 (Lab Ante Room) for reference for future students unless individual students request otherwise. Post the file to the appropriate Canvas group. Title the file Yourlastname_finalpaper
- Again, please submit all assignments in Word so I can use Comments and Track Changes to give feedback. I will not accept PDF files or any format other than Word.

Article presentation "Journal Club"

Each student is required to present one article to the rest of the class. Students will be assigned a date to present and the article should relate to either the class topic for the day, or the student's research paper. You should select a scholarly article rather than something from the popular press. Each student will select an article and distribute copies to the class at least one week before the assigned presentation date. The student will then lead a discussion of the article focusing on the significant points, successful arguments or flawed assumptions, how the article contributes to the existing body of literature, etc. The presenter should prepare a list of discussion questions in case they are needed. All class members are responsible for reading each article, but the presenter will read much more carefully and critically than other class members. The presentation will be graded on the quality of the article, how well the information is presented and the level of discussion that is generated.

Agents of deterioration observation

Dr. Francesca Consagra, Senior Curator, Prints and Drawings and European Paintings will give us a tour of the current exhibit *In the company of cats and dogs*. She will concentrate on the aesthetic values of the artwork and discuss her decision making process for designing the show. Please view the exhibit before our tour with Francesca and make notes for questions about the exhibit. After the tour students will prepare a short paper discussing how evidence of each of the agents of deterioration is represented in the exhibit, and offer relative ratings for the risks using Waller's guidelines. The paper is due September 17 and should be submitted on Canvas.

Quizzes

There will be at least one quiz for printing process and photo process identification. There may be others including "pop" quizzes. All quizzes combined only count for 5% your grade and they are graded very liberally.

Useful dates to remember

September 10:

Research proposal due; post directly to Canvas. Students are strongly advised to speak with the instructor before submitting a proposal. *Please note there are only 8 ½ weeks until the written paper is submitted.*

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| September 17: | Agents of deterioration paper due. |
| November 9: SUNDAY | Written paper, bibliography and discussion questions are due. Please post directly to Canvas. Students are expected to read all papers before the class discussion and be prepared to offer comments and suggestions. DUE AT MIDNIGHT SUNDAY |
| November 12 & 19: | Discussion of class papers. Collegial. Food provided. |
| December 3: | Photo and print process identification quiz. |
| December 5: | Final papers due; post directly to Blackboard. |
| To be assigned: | Individual article presentations. |

Grading

Grade points will be distributed as follows:

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|------------------------------------|-----|
| Research paper | 20% |
| Research paper presentation | 10% |
| Participation in paper discussions | 10% |
| Article presentation | 15% |
| Agents of deterioration summary | 20% |
| Quizzes | 5% |
| Attendance and *participation | 20% |

*Participation is mandatory and defined by the amount of meaningful content each student contributes to the class. If you never open your mouth in class, other than when you are presenting, you will not get a grade higher than a B for the class and more likely a C.

Course Policies

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, <http://www.utexas.edu/diversity/ddce/ssd/>

Students are expected to adhere to the University Honor Code. <http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html>

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior 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.

<<<< Class 1 - 27 August >>>>
Context and introduction

- Barnett, H. (2014, June). What humans can learn from semi-intelligent slime. Retrieved July 30, 2014, from http://www.ted.com/talks/heather_barnett_what_humans_can_learn_from_semi_intelligent_slime_1
- Brazil, R., & ChemistryWorld. (2014, June 28). Modern chemistry techniques save ancient art. Retrieved July 30, 2014, from <http://www.scientificamerican.com/article/modern-chemistry-techniques-save-ancient-art/?page=2>
- Brown, M. (2008, September 5). Will Mona Lisa smile more when she's clean? The science of art conservation. Retrieved July 30, 2014, from http://www.scientificblogging.com/scientific_notation/will_mona_lisa_smile_more_when_shes_clean_the_science_of_art_conservation
- Grann, David. (2010). The mark of a masterpiece. *The New Yorker*, July 12 – 19. Retrieved July 30, 2014, from <http://go.galegroup.com/ps/i.do?id=GALE|A232009193&v=2.1&u=txshracd2598&it=r&p=AONE&sw=w&asid=e559ed12a49c0aca8594fe0f40780400> Available on-line through UT Libraries.
- Greene, V. (2006). Using case studies to examine the decision-making process for cleaning ethnographic objects. *Journal of the American Institute for Conservation*, 45, 183-199. Available through JSTOR through UT libraries.
- Hodin, J. I. (n.d.). Can museums collect new media art?:The need for a paradigm shift in museum conservation. PDF Retrieved July 30, 2014, from <http://cool.conservaion-us.org/coolaic/sg/emg/library/index.html>
Under subheading Digital Preservation.
- Indiana University Bloomington; School of Education. (2005, September 7). How to recognize plagiarism. Retrieved July 30, 2014, from <https://www.indiana.edu/~istd/definition.html>
- Ito, J. (2014, March). Want to innovate? Become a "now-ist". Retrieved July 30, 2014, from http://www.ted.com/talks/joi_ito_want_to_innovate_become_a_now_ist
- Lambert, Simon. (2014). The early history of preventive conservation in Great Britain and the United States (1850-1950). Retrieved July 8, 2014, from <http://ceroart.revues.org/3765>
- Millard, Robin. (2012). Suspense as Britain bids to save silent Hitchcock thrillers. Retrieved July 30, 2014, from http://www.expatica.com/nl/leisure/arts_culture/Britain_bids_to_save_silent_Hitchcock_thrillers_16701.html
- Olsen, E. (2013, February 27). Scientists uncover invisible motion in video. Retrieved July 30, 2014, from http://bits.blogs.nytimes.com/2013/02/27/scientists-uncover-invisible-motion-in-video/?_r=0
- Panagiaris, G., Mertzani, M.; Malea, E.; and Maniatis, N. (2008). Towards a binding code of ethics for the conservation and display of human remains. In *15th triennial conference, New Delhi, 22-26 September 2008: preprints/ICOM Committee for Conservation*. Bridgland, Janet (Editor). ICOM Committee for Conservation pp. 364-369.
- Pallotta, D. (March 2013). The way we think about charity is dead wrong. Retrieved July 30, 2014, from http://www.ted.com/talks/dan_pallotta_the_way_we_think_about_charity_is_dead_wrong.html
- Valentine, J.; Li, J.; Zentgraf, T.; Bartal, G.; and Zhang, X. (2009). "An optical cloak made of dielectrics" *Nature Materials*, 8, 568. Available through Google Scholar. **Read this for the conceptual picture only; you are not expected to understand the physics here.**

<<<< Class 2 - 3 September >>>>
Agents of Deterioration

Canadian Conservation Institute. (n.d.). Ten agents of deterioration. Retrieved July 30, 2014 from <http://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/index-eng.aspx>

Read the following sections:

Deterioration by Light, UV and IR (Read to "Control of Light") <http://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap08-eng.aspx>

Pollutants (Only need to read chart at top of page.) <http://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap07-eng.aspx>

Deterioration by Incorrect Temperature, and the Most Vulnerable Collections (Read to Sources of Incorrect Temperature.) <http://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap09-eng.aspx>

Deterioration by Incorrect Relative Humidity, and the Most Vulnerable Collections (Read to Sources of Incorrect Relative Humidity.) <http://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap10-eng.aspx>

Heritage Collections Council (n.d.). Common deterioration processes. *Summary of gallery illumination: LED lighting in today's museums hosted by The Smithsonian American Art Museum on Friday, March 1st, 2013.* (n.d.). Retrieved July 30, 2014 from http://www.americanart.si.edu/conservation/program_docs/aic_summary.pdf

Indiana Historical Society. (n.d.). Deteriora and the agents of deterioration. Retrieved July 30, 2014, from <http://www.indianahistory.org/our-services/local-history-services/hoosier-heritage-alliance/deteriora-.UopgS435E4r>

Microscopy resource center. (2012). Retrieved January 7, 2014, from <http://www.olympusmicro.com/>
Read (at least) the following sections:

- Home page > Physics of Light and Color > Sources of Physical Light > Introduction to Visible Light Sources
- Home page > Physics of Light and Color > Primary Colors > Introduction to Primary Colors
- Home page > Microscopy Basic Concepts > Introduction > Anatomy of the Microscope
- Home page > Special Techniques > Polarized Light Microscopy > Polarization of Light

The psychometric chart can be printed at either of the following two sites:

Coolerado. (n.d.). Retrieved July 30, 2014 from <http://www.coolerado.com/products/psychometric-charts/>

Carrier. (n.d.). http://www.alder.co.za/psy_02.pdf

<<<<< Class 3 - 10 September >>>>>

Appreciation and aesthetics

Visit exhibit at Blanton

Tour HVAC system

Guest lecturer: Dr. Francesca Consagra

Guest lecturer: Chris Seebach

Meet at front door of Blanton at 9:00

Herzog, H. (2011). *Some we love, some we hate, some we eat.* New York: Harper Perennial. There is one copy in the resource center. Please do not remove.

Lussier, S. M., & Smith, G. D. (2008). A review of the phenomenon of lead white darkening and its conversion treatment. *Reviews in Conservation*, 8, 41-53. (Course packet)

Pigments through the ages. (2013). Retrieved July 30, 2014 from <http://www.webexhibits.org/pigments/intro/uv.html>

Rowlett, S. (2013, June 18). How to destroy a James Turrell. Retrieved July 30, 2014, from <http://hyperallergic.com/73609/how-to-destroy-a-james-turrell/>

The University of Texas at Austin. Landmarks. (2013) The color inside. Retrieved January 22, 2014, from http://landmarks.utexas.edu/artistdetail/turrell_james

10 Colors that faded away. (nd.) Retrieved July 30, 2014 from <http://media.boingboing.net/wp-content/uploads/2011/10/listomania-1-1.jpg>

X-Rite Inc. (2013). Color test. Retrieved July 30, 2014 from http://www.xrite.com/custom_page.aspx?pageid=77&lang=en

271 years before Pantone, an artist mixed and described every color imaginable in an 800-page book. (n.d.). Retrieved July 30, 2014, from <http://www.thisiscolossal.com/2014/05/color-book/>

<<<<< Class 4 - 17 September >>>>>

Climate debate

Ashley-Smith, J., & Burmester, A. (2013). *Plus-minus debate.* Retrieved July 30, 2014, from <http://www.doernerinstitut.de/downloads/Plus-Minus-Debate.pdf>

Bickersteth, J. (2014). Environmental conditions for safeguarding collections: What should our set points be? *Studies in Conservation*, 59(4), 218-224.

- Bichlmair, S., Holl, K., & Kilian, R. (2012). The moving fluctuation range - a new analytical method for evaluation of climate fluctuations in historic buildings. In J. Ashley-Smith, A. Burmester, & M. Eibl (Eds.), *Climate for Collections: Standards and Uncertainties* (pp. 439-450). London: Archetype.
- Boersma, F. (2007). *Unravelling textiles: A Handbook for the preservation of textile collections*. London: Archetype. pp. 31-46
- Bolliger, A., & Strobl, J. (2013). *Real savings discussion*. Retrieved July 30, 2014, from http://www.doernerinstitut.de/downloads/The_Real_Savings_EN.pdf
- Burmester, A., & Kostowski, R. (2013). *Stability versus stress discussion*. Retrieved July 30, 2014, from http://www.doernerinstitut.de/downloads/Stability_versus_Stress.pdf
- Doerner Institute. (20). Retrieved July 30, 2014, from http://www.doernerinstitut.de/en/projekte/Bizot/bizot_1.html
- Image Permanence Institute. (n.d.). Sustainable preservation practices for managing storage environments. Retrieved July 8, 2014 from <http://www.ipisustainability.org/workshop-presentations/>
- Neal, K. (2012, February 22). Power felt gives a charge. Retrieved July 30, 2014, from <http://news.wfu.edu/2012/02/22/power-felt-gives-a-charge/>
- The National Archives. *PAS 198:2012 Specification for managing environmental conditions for cultural collections*. London: British Standards Institution. (There is a copy in the resource center.)

<<<<< **Class 5 - 24 September** >>>>>

Preventive conservation

- Boersma, F. (2007). *Unravelling textiles: A Handbook for the preservation of textile collections*. London: Archetype. pp. 81-100
- Conservation Center for Art and Historic Artifacts. (2014.) Preservation resource materials. Retrieved July 30, 2014 from <http://www.ccaha.org/publications/technical-bulletins>
- Lavedrine, B. (2009). From mass-produced artefacts to mass treatments: the impact of industrial development on the museum field. *Incredible Industry: Preserving the Evidence of Industrial Society*, pp. 15-24. The digital version of this volume is available at: <http://www.nkf-dk.dk> (Retrieved July 30, 2014). You will have to navigate the site in Dutch, but the icons are fairly straight forward. There is a link at the bottom of each screen labeled *Publikationer* that takes you to the publication.
- National Archives of Australia. (2013). About the photographic activity test. Retrieved July 30, 2014, from <http://www.naa.gov.au/records-management/agency/preserve/physical-preservation/pat.aspx>
- National Archives of Australia. (2013). Rules for use of 'Archival Quality' trademark. Retrieved July 30, 2014, from <http://www.naa.gov.au/records-management/agency/preserve/physical-preservation/certification-trademark.aspx>
- National Archives of Australia. (2013). Register of certified archival quality products. Retrieved January 14, 2014 from <http://www.naa.gov.au/records-management/agency/preserve/physical-preservation/register.aspx>
- Waller, R. (1994). Conservation risk assessment: A Strategy for managing resources for preventive conservation. Retrieved July 30, 2014, from <http://www.museum-sos.org/docs/WallerOttawa1994.pdf>

<<<<< **Class 6 - 1 October** >>>>>

Basic concepts: Polymers

- How to identify plastic materials using the burn test. (2014). Retrieved July 30, 2014, from <http://www.boedeker.com/burntest.htm>
- Boersma, F. (2007). *Unravelling textiles: A Handbook for the preservation of textile collections*. London: Archetype. pp. 1-3
- Chapman, C. and O'Connor, H. (1664). Magic molecule. Retrieved July 29, 2014, from http://www.nfb.ca/film/magic_molecule
- Eyre, C. (2009, September 22). Plastics conservation: The race against time. Retrieved July 30, 2014, from <http://www.europeanplasticsnews.com/subscriber/featured2.html?cat=1&featuredid=1253609706>
- Haude, M. E., O'Hern, R., and Nunberg, S. "Plastics are forever: Wraps, tools, films, and containers used in conservation." AIC News, September 2011. Retrieved July 30, 2014, from <http://www.conservation-us.org/docs/default-source/aic-news/2011-05-Sept-AICNews.pdf>
- Kean, S. (2009, July 1). Does plastic last forever? Slate. Retrieved July 30, 2014, from <http://www.slate.com/id/2221963/>

Knowledge network. Science 360. "Self-healing polymer fixes scratches." Retrieved July 30, 2014, from <http://science360.gov/topic/Chemistry/> This site often has interesting research on polymers.
Microgalleria main directory. (2005). Retrieved July 30, 2014, from <http://pslc.ws/macrog/maindir.htm>
Syracuse University Libraries. (2013). Plastics collection. Retrieved July 30, 2014, from <http://plastics.syr.edu/>

<<<<< **Class 7 - 8 October**>>>>>

Basic concepts: Dyes and colorants; examination and analysis

Ball, P. (2001). In *Bright earth: Art and the invention of color* (pp. 24-71). New York: Farrar, Straus and Giroux. (Course packet)
Boersma, F. (2007). *Unravelling textiles: A Handbook for the preservation of textile collections*. London: Archetype. pp. 47-60.
Conservation science for the cultural heritage: Applications of instrumental analysis. (2013). Berlin, Heidelberg: Springer Berlin Heidelberg. This is available electronically from UT libraries. Read the **table of contents only** before class.
Cosentino, A. (2013, April 15). Multispectral image analysis for art. Retrieved July 30, 2014, from <http://chsource.org/2013/04/15/multispectral-image-analysis-for-art-examination-multispec/>
Image Permanence Institute. (n.d.). Photographic activity test. Retrieved July 30, 2014, from <https://www.imagepermanenceninstitute.org/testing/pat> (Look over rest of website as well.)
Johnston, I. (2014, July 13). Blackest is the new black: Scientists develop a material so dark that you can't see it... Retrieved July 30, 2014, from <http://www.independent.co.uk/news/science/blackest-is-the-new-black-scientists-have-developed-a-material-so-dark-that-you-cant-see-it-9602504.html>
Mills, J. S., & White, R. (1994). Dyestuffs and other coloured materials. In *The organic chemistry of museum objects* (pp. 141-159). Oxford: Butterworths. (Course packet)
Small world image gallery. (2012). Retrieved July 30, 2014, from <http://www.microscopyu.com/smallworld/gallery/contests/2012/index.html>
Spring, M., Liang, H., Peric, B., Saunders, D., & Podoleanu, A. (2008). Optical coherence tomography – a tool for high resolution non-invasive 3D-imaging of the subsurface structure of paintings. *ICOM Committee for Conservation Graphic Documents*, pp. 633-640.
Smithsonian X3D. (2014). Retrieved July 30, 2014, from <http://3d.si.edu/>
Warren, S. (2009). Hazards in industrial collections of the Canada Science and Technology Museum Corporation Ottawa, Canada. *Incredible Industry: Preserving the Evidence of Industrial Society*, pp. 225-232. The digital version of this volume is available at: <http://www.nkf-dk.dk> (Retrieved July 30, 2014). You will have to navigate the site in Dutch, but the icons are fairly straight forward. There is a link at the bottom of each screen labeled *Publikationer* that takes you to the publication.

<<<<< **Class 8 - 15 October** >>>>>

Applying concepts: Paper and ink

Art of the photogravure. (n.d.) Retrieved July 30, 2014, <http://www.photogravure.com/>
Baty, J.W., Maitland, C., Minter, W., Hubbe, M. and Jordan-Mowrey, S. (2010). "Deacidification for conservation," *BioResources* 5(3), 1955-2023. Search the title and journal and the PDF is available. Part of this article is dense, but just take the chemistry on faith.
Hubbe, M. A. , and Bowden, C. (2009). Handmade paper, review, *BioResources* 4(4), 1736-1792. Search the title and journal and the PDF is available.
Image Permanence Institute. (2014). Graphics atlas. Retrieved July 30, 2014, <http://www.graphicsatlas.org/>
Krill, J. (2002). Introduction. In *English artists' paper: Renaissance to regency* (pp. 1-41). Winterthur, Delaware: Oak Knoll. (Course packet)
Library of Congress. (2012, October 11). New research on iron gall ink. Retrieved July 30, 2014, from <http://www.loc.gov/preservation/outreach/symposia/igi.html>
Raloff, J. (2009, October 7). Concerned about BPA: Check your receipts. Retrieved January 7, 2014, from http://www.sciencenews.org/view/generic/id/48084/title/Science_plus_the_Public_Concerned_about_BPA_Check_your_receipts/
Reissland, B. and Ligterink, F. (2011, February 13). The iron gall ink website. Retrieved July 30, 2014 from <http://irongallink.org/index.html>

- Schweidler, M. (2007). Paper manufacture. In R. Perkinson (Ed. & Trans.), *The restoration of engravings, drawings, books and other works of paper* (pp. 41-45). Los Angeles: Getty. (Course packet)
- Stephens, C. H., Barrett, T., Whitmore, P.M., Wade, J., Mazurek, J., & Schilling, M. (2009). Composition and condition of naturally aged papers. *Journal of the American Institute for Conservation*, 47, 201-216. Available through JSTOR
- Stephens, C. H.; Whitmore, P. M.; Morris, H. R.; and Bier, M. E. Hydrolysis of the amorphous cellulose in cotton-based paper. *Biomacromolecules* 9, no. 4 (2008), pp. 1093-1099 (Read the abstract only unless you have a strong chemistry background.) PDF available by searching title at <http://scholar.google.com/>
- Strlic, M., Cassar, M., & Kolar, J. (2008). NIR/Chemometrics approach to characterisation of historical paper and surveying of paper-based collections. *ICOM Committee for Conservation Graphic Documents*, pp. 293-300. In print and on CD in 1.506.
- What is a print? (n.d.). Retrieved July 30, 2014, from <http://www.moma.org/interactives/projects/2001/whatisaprint/flash.html>

<<<<< Class 9 - 22 October >>>>>

Applying concepts: Photographic materials

- Benson, R. (2008). *The printed picture*. New York: Museum of Modern Art. (Required text) Skim the entire text.
- Clark, S. (2009). *Preservation of photographic material* (2009 ed.). London: British Library, Preservation Advisory Centre. Retrieved January 7, 2014 from <http://www.bl.uk/blpac/publicationsleaf.html>
- George Eastman House (2009). Notes on photographs. Retrieved July 30, 2014, from <http://www.notesonphotographs.org/>
- Hirsch, R. (2010). Images and words: An online history of photography. Retrieved July 30, 2014, from <http://www.luminous-lint.com/IaW/public/5/1/2/1/0/20/T/>
- Lavedrine, B. (2003). In *A guide to the preventive conservation of photograph collections* (pp. 3-142). Los Angeles: Getty. (Required text)
- Photoseed collection. (n.d.). Retrieved July 30, 2014, from <http://photoseed.com/>
- Reoiv.com. (n.d.) Retrieved July 30, 2014, from <http://www.reoiv.com/images/random/dadbandwandcolour.jpg>
- Weaver, G. (2008) *Guide to Fiber-Base Gelatin Silver Print Condition and deterioration*. New York: George Eastman House. Retrieved July 30, 2014, from <http://gawainweaver.com/library/>
- Weaver, G. (2013). Updated photo id. chart. Retrieved July 30, 2014, from http://gawainweaver.com/images/uploads/Process ID Chart_19th Century Photo.pdf

<<<<< Class 10 - 20 October >>>>>

Applying concepts: Photographic materials

- Digital print identification (2004). July 30, 2014, from <http://aic.stanford.edu/sg/emg/juergens/>
- Frey, F., Heller, D., Kushel, D., Vitale, T., Warda, J., & Weaver, G. (2008). *The AIC guide to digital photography and conservation documentation* (J. Warda, Ed.). Washington, DC: AIC. Copies of first and second editions in UTA 1.506.
- Image Permanence Institute. (2014). Digital print preservation portal. Retrieved July 30, 2014, from <http://www.dp3project.org/>
- Stulik, D. and Kaplan, A. (2013). The Atlas of Analytical Signatures of Photographic Processes. Retrieved July 30, 2014, from http://www.getty.edu/conservation/publications_resources/pdf_publications/atlas.html
- Timeline of historical film colors. (n.d.). Retrieved July 30, 2014, from <http://zauberklang.ch/filmcolors/-/>
- Wilhelm Imaging Research. (n.d.) Retrieved July 30, 2014, from <http://www.wilhelm-research.com/index.html> This site is for reference. Take a look at what is found here.

<<<<< Class 11 - 5 November >>>>>

Applying concepts: Sound
Guest speaker: Sarah Norris

- Audio Engineering Society. (2013). An audio timeline. Retrieved July 30, 2014, from <http://www.aes.org/aeshc/docs/audio.history.timeline.html>

- Bigourdan, J.L., Reilly, J. et al. (2006). The preservation of magnetic tape collections: A perspective. Final report to National Endowment for the Humanities, Division of Preservation and Access. Retrieved July 8, 2014, from https://www.imagepermanenceinstitute.org/webfm_send/303
- Friedlander, A., Flecker, D., Romano, F., Lyman, P., Brylawski, S., Ide, M., et al. (2002). Building a national strategy for digital preservation: Issues in digital media archiving. Retrieved July 30, 2014, from <http://www.clir.org/pubs/reports/pub106/contents.html>
- Frost, H., (Ed.). (2008). *Audio preservation*. Retrieved July 30, 2014, from <http://palimpsest.stanford.edu/bytopic/audio/>
- Ghosh, P. (2012, December 20). Curators discover first recordings of Christmas Day. [Newsgroup post]. Retrieved July 30, 2014, from BBC News website: <http://www.bbc.co.uk/news/science-environment-20772246>
- Gray, C. (2013, May). We had no idea what Alexander Graham Bell sounded like. Until now. *Smithsonian*. Retrieved July 30, 2014, from <http://www.smithsonianmag.com/history-archaeology/We-Had-No-Idea-What-Alexander-Graham-Bell-Sounded-Like-Until-Now-204137471.html>
- Hall, K. (2013, July 22). Music historian unlocks sounds from 1889 record engraving. *Indianapolis Star*. Retrieved July 30, 2014, from <http://www.usatoday.com/story/news/nation/2013/07/22/professor-plays-photo-vintage-vinyl/2574615/>
- Listen as Albert Einstein reads 'The common language of science' (1941). (2013, March 21). Retrieved July 30, 2014, from http://www.openculture.com/2013/03/listen_as_albert_einstein_reads_the_common_language_of_science_1941.html
- Media Preservation. (2012, June 20). Extracting audio from pictures. Retrieved July 30, 2014, from <http://mediapreservation.wordpress.com/2012/06/20/extracting-audio-from-pictures/>
- NEDCC. (2014, January 10). IRENE/3D Seeing soundblog. Retrieved July 30, 2014, from <http://www.nedcc.org/audio-preservation/irene-blog/>
- Online audio collections presentations. (2012, November 27). Recorded sound reference center database. Retrieved July 30, 2014, from <http://www.loc.gov/rr/record/onlinecollections.html>
- Reed, R. R. (n.d.). Playing the unplayable records. Retrieved July 30, 2014, from <http://www.smithsonianmag.com/multimedia/videos/Playing-the-Unplayable-Records.html>

<<<<< **Class 12 - 12 November** >>>>>
Discuss papers

<<<<< **Class 13 - 19 November** >>>>>
Discuss papers

<<<<< **Class 14 - 26 November** >>>>>
To be decided
Optional class

<<<<< **Class 15 3 December** >>>>>
Time based media; Future directions for conservation
Wrap up
Print and photo id quiz

- Artworks. (n.d.). Inside installations. Retrieved July 30, 2014, from <http://www.insideinstallations.org/artworks/index.php>
- Curatorial resource for upstart media bliss. (2013.) Retrieved July 30, 2014, from <http://www.crumbweb.org/>
- Electronic Media Group. (2010, September 1-2). Tech focus: Caring for video art. Retrieved July 30, 2014, from <http://cool.conservation-us.org/coolaic/sg/emg/techfocus1/index.html>
- Guggenheim. (2014). Time based media. Retrieved July 30, 2014, from <http://www.guggenheim.org/new-york/collections/conservation/time-based-media>

- Jonas, J. (2010, January 13). Joan Jonas discusses Mirage. Retrieved July 30, 2014, from <http://youtu.be/yiYsGBMHNqI>
- National Gallery of Art. (n.d.). Dan Flavin: A retrospective. Retrieved July 30, 2014, from <http://www.nga.gov/exhibitions/2004/flavin/hardware/hardware.shtm>
- Richmond, A., & Bracker, A. (Eds.). (2009). *Conservation: Principles, dilemmas and uncomfortable truths*. Amsterdam: Elsevier. Available electronically through UT libraries.
- Smithsonian. (n.d.) Time based media art. Retrieved July 30, 2014, from <http://www.si.edu/tbma/majorprojects>
- Viola, B. (1997, December). Bill Viola's The Greeting. Retrieved July 30, 2014, from <http://www.sfmoma.org/explore/multimedia/videos/13>