MUSEUM PREVENTIVE CONSERVATION I – PREVENTIVE CONSERVATION CONCEPTS
Course Outline and Syllabus, Fall 2013

General Course Information
Museum Preventive Conservation I
3.0 credits
CRN 52878 AH 6286.80
CRN 51605 ANTH 6203.80
CRN 52251 MSTD 6203.80

Dates and Times
Thursdays 6:10pm–8:00pm
Classes begin 29 August 2013
Holiday 28 November 2013
Last class 05 December 2013

Venue
National Museum of Natural History, Smithsonian Institution, 10th and Constitution, Washington, DC.
Students should assemble by 6:00pm in the Constitution Avenue lobby of the National Museum of Natural History. An escort will take you to the classroom as a single group. Please bring a photo ID in case the security guards request one. If you are unable to be present by 6:00 PM, please make arrangements with the instructors for someone to meet you in the lobby.

Course Directors and Primary Instructors
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Required Reading Materials
Available from GW Bookstore; alternate sources given below
http://www.archetype.co.uk/publication-details.php?id=64


Purchase directly from publisher/distributor; not available via GW Bookstore

Order from: http://www.universityproducts.com/cart.php?m=product_list&c=2097
Available at no charge

Additional readings (required and supplemental) are available on course readings CD. The CD will be distributed at the first session. YOUR CD MUST BE RETURNED AT THE END OF THE COURSE TO RECEIVE A FINAL GRADE

Supplies (required)
Each student should bring a small hand lens or optivisor (anything from 2-10x) to all class sessions dealing with materials in collections and for the laboratory sessions. Each student should also bring a pair of indirectly vented safety goggles (see below for style; available at hardware stores) for each of the 2 laboratory sessions.

Additional Resources (available at no charge)
CAMEO materials database – information on hundreds of materials found in museum collections http://cameo.mfa.org/wiki/Category:Materials_database
Collections Trust – CollectionsLink website. Benchmarks in Collections Care; benchmarking documents for various kinds of collections and information on qualitative collections assessments http://www.collectionslink.org.uk/component/acesearch/search?query=benchmarks+in+collection+care+pdf
Heritage Preservation – information on conservation assessments, www.heritagepreservation.org
Institute of Conservation (ICON) – series on how to care for various objects http://www.icon.org.uk/index.php?option=com_content&task=view&id=9&Itemid=10
Image Permanence Institute – free download of the Preservation Calculator, other free publications on preservation of photographic material, information on the Photographic Activity Test www.imagepermanenceinstitute.org
Museum Pests Network – information on pest ID and control www.museumpests.net
National Archives and Records Administration, electronic publications on preservation www.archives.gov/preservation/
Researching Ivory – links to a host of resources regarding ivory, [http://www.ebur.eu/index.php?q=1&s=0&t=1](http://www.ebur.eu/index.php?q=1&s=0&t=1)

Society for the Preservation of Natural History Collections – electronic archive of journal issues, many related to preventive conservation topics, click on ‘Publications’ and follow links [www.spnhc.com](http://www.spnhc.com)

Course Description
Examines the history of preventive conservation in museums, the ethics that govern the conservation profession, and team approaches to collections care. Introduces interactions of materials and agents of deterioration that threaten collections, condition documentation, qualitative assessments, and when to consult a conservator and how to choose a conservator. Presents the literature and other resources available on preventive conservation.

Course Learning Objectives
- Review the evolution of a preventive conservation approach for museums and historic preservation
- Explain ethics and guidelines for practice in the conservation profession
- Compare differing approaches to conservation in various specialty fields and cultures
- Recognize issues related to cultural sensitivity of collection objects
- Recognize the scientific and conservation terms used in preventive conservation and know their meaning
- Safely handle cultural property
- Document the condition of museum objects in written and photographic form
- Describe agents of deterioration (fire, water, physical forces, pests, contaminants, light and ultraviolet radiation, incorrect temperature, incorrect relative humidity, displacers and vandals, and neglect) that act on cultural property and the types of risk that may be posed by each one
- Describe mechanisms by which environmental agents of deterioration damage cultural property
- Identify materials that comprise cultural property, describe technologies used to create cultural property from these materials, and assess the effects of various agents of deterioration on these materials
- Evaluate physical and chemical properties of materials commonly used to store and display collections
- Compile and analyze information about materials that might be used to store and display collections, implement uncomplicated tests to screen these materials, and determine when in this process to consult a conservator
- Understand a qualitative assessment approach to collection care
- Recognize when to call a conservator and how to select an appropriate conservator.

Code of Academic Integrity
All students who take the course are expected to comply with the George Washington University Code of Academic Integrity in completing assignments and examinations. A copy of the Code is available at [http://www.gwu.edu/~ntegrity/code.html](http://www.gwu.edu/~ntegrity/code.html)

Accommodation for Religiously Observant Students
In keeping with University policy, students are to notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance. These students will be permitted to be absent without penalty on such occasions, including permission to make-up examinations. The full policy is available at: [http://registrar.gwu.edu/university-policies](http://registrar.gwu.edu/university-policies)

Accommodation for Disabilities
In accordance with the Americans with Disabilities Act (ADA), Section 504 of the Rehabilitation Act, and other applicable federal, state, and local laws, and as articulated in the University’s Equal Opportunity Statement, the University does not discriminate against any qualified individuals with a disability. For additional information for students, or to request a reasonable accommodation on the basis of disability, please refer to the Disability Support Services (DSS) website at [http://gwired.gwu.edu/dss/Welcome/](http://gwired.gwu.edu/dss/Welcome/), or contact DSS at (202) 994-8250.

Grading
Method of Evaluation
- Class participation 15%
- Object condition report 15%
- Quizzes (2 @ 10%) 20%
- Lab reports 15%
- Paper (team grade) 20%
- Presentation (team grade) 15%

Letter Grade Equivalents
Numerical scores for assignments are posted on the Blackboard site for the course. Final grades are based on the BB weighted calculations and given as letter grades according to the following GWU letter grade system:

<table>
<thead>
<tr>
<th>Numerical Score</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100</td>
<td>A</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
</tr>
</tbody>
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Assignments
REFER TO COURSE SCHEDULE FOR DATES AND TIMES WHEN ASSIGNMENTS & QUIZZES ARE DUE

1. **Paper - Qualitative Assessment of an Exhibit (group project)**
   Working in teams, students will prepare a qualitative assessment of the agents of deterioration that might act on a particular long-term (more than 6 months) exhibit at a local museum. The exhibit must remain on view through the end of the semester and must incorporate a minimum of 4 different types of materials based on the categories discussed in class (plant, keratin/fibroin/chitin, collagen, inorganic non-metal, metal, natural composite, synthetic). The paper will:
   - discuss the materials likely to be present in the objects on display and their vulnerability to agents of deterioration;
   - provide data about agents of deterioration from repeated visits at different days of the week and times of day, including monitoring of temperature, relative humidity, and light levels
   - prioritize the possible risks to the exhibit as a whole
   - make recommendations concerning the steps that might be taken to verify and possibly mitigate the risks discussed in terms of short-, mid-, and long-term solutions
   - provide estimates of probable costs involved in each mitigation step
   - include references and full citations for all sources
   - detail participation and contribution of each team member.
   
   Students are encouraged to discuss their exhibit choices with the instructors as soon as possible after the course begins so that the instructors can notify the museums involved about the projects and obtain any necessary permission.

   Students will not contact museum staff independently, nor will they request access to the exhibits beyond that which is normal for members of the public visiting the facility

2. **Presentation of Qualitative Assessment (PPT group project)**
   Each team will be asked to make a brief (approximately 10 minute) PowerPoint presentation on their findings at the final session of the course. Each member of the team must be part of the presentation. Practice as a group is essential for quick and smooth transitions – these are part of the total time allotment. Presentations will be structured as reports to a member of the museum’s board and the museum’s director (the instructors). The students in other teams will be asked to evaluate the structure and quality of the presentation effort (not the presentation content).

   Keep in mind that photography may not be permitted in some museums/exhibits, which could have an impact on the quality of the presentations.

3. **Condition Report (individual assignment)**
   Each student is required to:
   - select an object (containing 3 or more different materials based on the materials groupings used in the course (see above), must be approved by instructors. Object can be in a museum collection, but one owned by the student is preferred for access, handling, and photography purposes.
   - prepare a numbered checklist of materials in the object, keyed by these numbers to a checklist of conditions applicable to each material
   - prepare both a narrative description and a narrative condition assessment of the object
   - incorporate all required data discussed in class
   - add up to 6 images with appropriate documentation to the report
   - include references and full citations for all sources and information on object or materials

   A sample checklist and narrative assessment, and a glossary have been included in the scanned readings. You may adapt one of these or design your own, but must incorporate all required data discussed in class.

4. **Lab Testing Reports (group project with individual or sub-team report preparation)**
   Working in teams, students will test materials during two lab sessions. Using a format provided by the instructors students will prepare reports either individually or as part of a team, as assigned, on selected tests conducted during the lab sessions.

Course Syllabus
**Sessions 1.1-2**
Topics
  - Course overview
Preventive conservation - history, philosophy; conservation ethics and standards of practice
Terminology used in chemistry, physics, and conservation practice
Overview of materials in collections

Required Texts
*Philosophy/history/ethics*
- Landry – Chapter 2
- Szczepanowska – Chapters 1 & 2

Scanned Required Readings
*Philosophy/history/ethics*

*Terminology/materials*

Required Web Sites
*Philosophy/history/ethics*

*Terminology/materials*

Scanned Supplemental readings
*Philosophy/history/ethics*

*Terminology/materials*

Supplemental Web Sites
*Philosophy/history/ethics*
- The CAPC Code governs the activities of Canadian conservators who have obtained professional certification through CAPC, and is broadly applicable to all Canadian conservators, no matter where they work. Canadian Association of Professional Conservators, Code of Ethics. [http://capc-acrp.ca/ethics.asp](http://capc-acrp.ca/ethics.asp)

*Terminology/materials*
Sessions 2.1-2
Topics
- Object handling guidelines and demonstrations
- Condition assessments and condition reports
- Discussion of papers and presentations

Required Texts
- *Handling*
  - Hawks et al. – Chapters 5, 8-12 and 15
  - Szczepanowska – Chapter 3

Scanned Required Readings
- *Condition assessments*

Required Web Sites
- *Condition assessments and handling*

Scanned Supplemental Readings
- *Condition assessments*
  - *Handling*

Sessions 3.1-2 Conservation Laboratories Tour at National Gallery of Art

Sessions 4.1-2
Topics
- Imaging for condition documentation.
- Group discussions: object evaluations
- Qualitative assessments – general conservation surveys
- Exhibition walkthrough and preventive conservation critique at NMNH (time permitting)

Required Texts
- *Photodocumentation*
  - Warda et al. – Chapters 1-5
  - For *Supplemental Reading* on photo techniques, consult Chapter 6

Scanned Required Readings
- *Photodocumentation*
- *Qualitative assessments*

Required Web Sites (review to understand nature of content)
- *Qualitative assessments*
  - Collections Trust, *CollectionsLink* website. Benchmarks in Collections Care – benchmarking documents for care of various kinds of collections

Scanned Supplemental Readings
- *Qualitative assessments*

**Sessions 5.1-2**

Agents of deterioration and mechanisms of damage to collections

Environmental agents and parameters for collections

Required Texts

**Agents of deterioration**

- Landry – Chapter 1

**Environmental agents**

- Ashley-Smith et al. – pp. 21-33 (article by Henderson and Dai), and
- ASHRAE – Chapter A-23 *Museums, Galleries, Archives, and Libraries*
- Grzywacz – Chapters 3-5, and review Appendix 1 and Appendix 2
- Hatchfield – pp. 5-42, 55-133, and review Appendix 2 and Appendix 3
- Strang – Chapter 1

Required Web site (review to understand range of content)

*Environmental agents*


Scanned Supplemental Readings

**Agents of deterioration, including environmental agents**

- Strang (from the required text) – any remaining chapters

Other Supplemental Readings

Environmental agents
Ashley-Smith et al. (from the required text) – any remaining chapters.

Sessions 6.1-2

Topics
Collagenous materials – sinew, gut, rawhide, tawed skin, tanned skin
Non-metallic inorganic materials – minerals, rocks/stone, pigments, glasses, glazes, ceramics,

Required Readings

Collagen
Szczepanowska – Chapter 7, pp. 169-182

Non-metallic inorganics
Szczepanowska – Chapter 9

Scanned Required Readings

Collagen

Inorganic non-metals

Scanned Supplemental Readings

Collagen

Non-metallic inorganics


Sessions 7.1-2
Topics
- Plant materials
- Synthetic materials (plastics)

Required Texts

**Plant materials**
- Landry – Chapters 3, 4, 9, and 11
- Szczepanowska – Chapter 6

**Synthetic materials**
- Szczepanowska – Chapter 10

Scanned Required Readings

**Plant materials**

**Synthetic materials**

Scanned Supplemental Readings

**Plant materials**

**Synthetic materials**

**Supplemental Web Sites**
- *Plant materials*
- *Synthetic materials*
  - Image Permanence Institute Web site on preservation of photographic materials: [http://imagepermanenceinstitute.org](http://imagepermanenceinstitute.org)

**Topics**

**Sessions 8.1-2**
- Materials testing & lab safety
  - Choosing storage and exhibit materials for collections – chemical and physical properties, additives
- Required Texts (distributed via email or on Blackboard)
  - *Materials testing/lab safety*
  - Packet on Laboratory Testing distributed by the course instructors
  - *Choosing materials*
  - Szczepanowska – Chapter 4
- Scanned Required Readings
  - *Choosing materials*

**Sessions 9.1-2 and 10.1-2 (BRING INDIRECTLY-VENTED SAFETY GOGGLES AND HAND LENSES)**
- Laboratory class - Materials testing
- Required Texts for both lab classes
  - Laboratory Packet distributed by the instructors
- Required Readings for both lab classes
  - All Required Readings on Materials Testing & Lab Safety from Session 8
- Scanned Supplemental Reading for both lab classes

**Sessions 11.1-2**
- Natural composites (intimate mixtures of organic and inorganic components in which the properties of the resulting material are dependent upon both components – bone, teeth/ivory, shell, eggshell)
- Complex Objects (mixed media objects)
Required Texts

**Natural composites**
Szczepanowska – Chapter 7, pp. 182-187

**Complex objects**
Landry – Chapters 7, 10, and 12

Scanned Required Readings

**Natural composites**

**Required Web Sites (review to understand content)**

**Natural composites**
Researching Ivory – links to a host of resources regarding ivory, [http://www.ebur.eu/index.php?q=1&s=0&t=1](http://www.ebur.eu/index.php?q=1&s=0&t=1)

**Supplemental Readings**

**Natural composites**

**Complex objects**

**Sessions 12.1-2**

Topics
Keratins, fibroin, chitin
Inorganic materials-metals

Required Texts

**Keratins, fibroin, chitin**
Szczepanowska – Chapter 7, 187-201

**Metals**
Landry – Chapter 8
Szczepanowska – Chapter 8

Scanned Required Readings

**Keratins/fibroin**
Minnesota Historical Society, n.d. *Quills, Horn, Hair, Feathers, Claws, and Baleen*. Minnesota Historical Society, Minneapolis, MN.

**Metals**

Required Web site (review to understand nature of content)

**Keratins**
Scanned Supplemental Readings

**Keratins, fibroin**


**Metals**


**Sessions 13.1-2**

**Topics**

- Cultural sensitivity in collections care – Guest Lecturer or video presentation
- Selecting and working with a conservator

**Scanned Required Readings**

**Cultural Sensitivity**


**Selecting a Conservator**


**Sessions 14.1-2**

**PRESENTATIONS and PAPERS DUE**

**RETURN COURSE READING CDs (mandatory to receive final grade)**