COURSE OUTLINE

Description

This course provides the foundation for documenting, evaluating, and planning the rehabilitation and/or restoration of historic buildings by introducing the student to historic building materials and technologies; the Secretary of Interior's Standards for Historic Preservation; and general approaches to the rehabilitation of historic buildings. The domain of this course includes buildings built in the United States from the late-16th century through the mid-20th century.

Objectives

The overall goal of this course is to teach the student how to develop the lifelong learning skills needed to communicate and interact with others that they will be in contact with in professional practice (e.g., architects, engineers, consultants, clients etc.) when working with rehabilitating or restoring older buildings. The objectives of this course are to teach the student to understand:

- the procedures for planning a rehabilitation project;
- the mechanics of producing an historic structures report;
- the role of the Secretary of Interior's Standards for Preservation, Rehabilitation, Restoration, and Reconstruction;
- the evolution of building technology in the United States from the late 16th century to the mid-20th century;
- the process of identifying, rehabilitating and/or maintaining materials commonly found in historic buildings;
- the technological development, use, and maintenance of building systems commonly found in historic buildings;
- the environmental safety issues related to the rehabilitation of buildings;
- the effect of codes on the operation and maintenance of historic properties;
- the resources available for preservation/rehabilitation planning activities;

Teaching Philosophy

This course introduces materials to enable the student to begin the lifelong learning process. Due to the scope of materials, the lectures are just the start of the learning process. The learning process further includes completing all reading tasks, investigating library and other resources, and consulting with the instructor. Completing the readings prior to lecture and asking questions in class are strongly encouraged. The process intent is to develop skills in analyzing, evaluating, and recognizing historic preservation technology solutions that are appropriate for compliance with the Secretary of the Interior Standards while meeting modern code and performance demands.
Organization

Class Hours 10:45 AM -12:05 PM, Tu+Th, Room 3015 GC.
Office Hours 9:30-10:30 AM, Room 240 AAC, Tu+Th or by appointment.

Telephone/Email (801) 581-3909; young@arch.utah.edu
Website http://www.arch.utah.edu/young

Class Leadership & Participation Punctuality and professionalism are traits valued by clients, employers, colleagues, and faculty. As such, students must be seated, ready to begin class activities at the scheduled start of class and be prepared to ask and answer questions. Pagers and cell phones must be turned off or set to non-audio mode during class time. Do not eat in class. Attendance is required and students are responsible for all in-class instructions.


There are selected readings from the internet that are accessible on the class web site. Refer to "Readings" section below.

Projects Along with technical accuracy, all assignments will be graded on completeness, creativity, and presentation quality.

Late Policy: All projects must be submitted by the start of class on the day they are due or they are considered late. Late work will be penalized up to one letter grade (e.g., an "A" becomes a "B") for each calendar day or any part thereof that it is late.

All late work must be turned in by 5:00 PM on April 25, 2017 to receive completion credit even though it may be too late for a letter grade.

Grading Final grades will be based on the following division of credit:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Paper 1</td>
<td>100</td>
</tr>
<tr>
<td>Research Paper 2</td>
<td>100</td>
</tr>
<tr>
<td>HSR Project Report/Presentation</td>
<td>200</td>
</tr>
<tr>
<td>Participation and Leadership</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
</tbody>
</table>
Grades will be based on the following performance levels:

A  Excellent: performance is exceptional.
B  Average: performance is at the expected level.
C  Below Average: performance is below expected level.
D  Unsatisfactory: performance is well below expected level.
E  Unacceptable: performance is extremely below expectations.

ADA Statement
The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

Important Dates
The last day to add or drop this class (without a “W”) is Jan 18; the last day to withdraw is March 8.

Canvas:
This course uses Canvas software to distribute information and assignments, share information about newsworthy events, provide additional course materials, facilitate discussions outside of class, give instant access to grades, and provide information about unanticipated changes in the course syllabus and schedule. You have “constructive notice” of any information posted on the course Canvas site during the semester. That means that you are assumed to have received information posted to the site, and that you take responsibility for the consequences if you choose to not check the site regularly.

Academic Misconduct
The University's Student Code contains the academic conduct standards expected of all University of Utah students. The Code defines “Plagiarism” as “the intentional unacknowledged use or incorporation of any other person's work in, or as a basis for, one's own work offered for academic consideration or credit or for public presentation. Plagiarism includes, but is not limited to, representing as one's own, without attribution, any other individual's words, phrasing, ideas, sequence of ideas, information or any other mode or content of expression” (Policy 6-400.I.B.2.c). Plagiarism is not a victimless offense; it hurts
most the person who commits it by subverting their integrity and undermining their ability to learn. Both of these effects impede the offender's professional potential. Students who engage in academic misconduct more than once are subject to the policy of the College of Architecture + Planning, which directs college and department administrators to seek the dismissal of the offending students from their academic program.

Electronic Devices
Using tablets and laptops can aid the taking of notes and reference to materials without having to carry printed texts to class. Cell phone conversations, texting, and other use of electronic devices in a manner that does not relate to our classroom conversations is not acceptable. Please be courteous to the instructor and your classmates by not misusing laptops, smart phones, and other devices in class.

Wellness
Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776. The CA+P Major Advisor, Grant Allen, is also available to provide assistance (grant.allen@arch.utah.edu).

Addressing Sexual Misconduct
Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

English as a Second Language
If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (http://writingcenter.utah.edu/); the Writing Program (http://writing.utah.edu/); and the English Language
Institute (http://continue.utah.edu/eli/). Please let me know if there is any additional support you would like to discuss for this class.

Student Success: The College of Architecture + Planning supports an active student success program, providing guidance and advice to all students on matters relating to academic progress, graduation, and career development. The program also maintains strong links across campus to a variety of student services designed to nurture holistic wellbeing. The Student Success Advisor for students in this class is: Amaris Leiataua; undergrad majors: Grant Allen; MArch: Linda Bastyr; MCMP: Patrick Clements). The Student Success Program website, through which you can sign up for an appointment, access information on student services, find information about jobs and internships, and keep tabs on social and extra-curricular activities, is located at http://www.cap.utah.edu/student-success/.

Student Organizations The College of Architecture + Planning hosts several student interest groups that provide students with opportunities for social interaction, networking, and professional development. Here is a list of those organizations, with information on how you can find out more:

Student Collective of Allied Planner and Ecologist (SCAPE): https://www.facebook.com/scapeuofu/

Point B Student Transportation Group: https://www.facebook.com/pointbtransportationuofu/ pointbtransportation@gmail.com

# COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic/Readings</th>
</tr>
</thead>
</table>
| January 8 | Introduction; Case Study: Falling Water  
HP01A-C |
| 10 | Accessibility/Fire & Life Safety {1}  
HPT: Ch. 1-3, HP02A: Accessibility, Health and Safety; HP02B. |
| 15 | Construction and Structural Systems {2}  
HP-2a: Structural Systems; HP03. |
| 17 | Log & Timber {3}  
HPT: Ch. 4 |
| **Project 1 Topic Due** | |
| 22 | Stone & Masonry I {4}  
HPT: Ch. 5, 6, HP02A: Masonry |
| 24 | Architectural Metals {5}  
HPT: Ch. 7, HP02A: Architectural Metals |
| 29 | Roofing and Cladding {6}  
HPT: Ch. 8, 9, HP02A: Roof |
| 31 | Building Exterior Elements and Site Features {8}  
HPT: Ch. 11, 12, HP02A: Entrances and Porches; Storefronts |

**February 5**  
**Project 1 Presentations**  
**7**  
**Project 1 Presentations**  
**Project 1 Due**  

| 12 | Windows {7};  
HPT: Ch. 10, 15; HP02A: Windows |
| 14 | Interiors {9}  
HPT: Ch. 13, 14; HP02A: Spaces, Features, and Finishes |
| 19 | Wood Carving & Millwork {10}  
HPT: Ch. 16; HP02A Wood |
| **Project 2 Topic Due** | |
| 21 | Site Visit—TBD |
| 26 | Ornamental and Flat Plaster {11}  
HPT: Ch. 17 |

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1 The number within the brackets “{ }” refers to the lecture number on the on the lectures in FILES.  
HPT is the Historic Preservation Technology textbook. HP refers to resources found in the readings section below.  
2 Readings should be completed by the date they are shown on the schedule.
ARCH/CMP-6570: PRESERVATION TECHNOLOGY
University of Utah College of Architecture + Planning
Professor Robert A Young, PhD, PE, FAPT, LEED ap
Spring, 2019

28 Paint and Faux Finishes {12}
   HPT: Ch. 18

March
5 Project 2 Presentations
7 Project 2 Presentations
   Project 2 Due

12 Spring Break—No Class
14 Spring Break—No Class

19 Inspection Process/Historic Structures Reports
   HP04A; 05(A-D),06-08.
21 Heating, Cooling, and Ventilation {13}
   HPT: Ch. 19, HP02A: Mechanical Systems

26 Lighting, Electrical, and Mechanical/Sustainability {14}
   HPT: Ch. 20-22, HP02A: Energy Conservation
   Status Report 1 Due
28 Guest Speaker: (TBD)

April
2 HSR Project Coordination
4 HSR Project Collaboration

9 HSR Project Coordination
   Status Report 2 Due
11 HSR Project Collaboration

16 HSR Project Coordination
18 HSR Project Collaboration

23 HSR Project Presentations
   HSR Project Reports and Presentation Media Due
READINGS

Access On Canvas

- HP01A ARCH-6570 Course Pack
- HP01B Sample of Paper Format
- HP01C Paper Template 2 Column
- HP03 Structural Seismic Evaluation Methods
- HP04A UTAH SHPO House Research
- HP04B HSR Preparation
- HP05 Selected sections from (A) Fure’s Cabin/(B)The Mumma Barn/(C)Ryan Center/(D)Smith School House Historic Structures Reports
- HP08 Fisher Mansion HSR

Access On Internet

- HP02A Secretary of the Interior’s Standards (SOTIS) for Rehabilitation [https://www.nps.gov/tps/standards/rehabilitation/rehabilitation-guidelines.pdf](https://www.nps.gov/tps/standards/rehabilitation/rehabilitation-guidelines.pdf)
- HP02B Four Approaches to the Treatment of Historic Properties. [https://www.nps.gov/tps/standards/four-treatments.htm](https://www.nps.gov/tps/standards/four-treatments.htm)
- HP06 National Park Service Guidelines for Historic Structure Reports (NPS-28: Chapter 8). (See [https://www.nps.gov/parkhistory/online_books/nps28/28chap8.htm](https://www.nps.gov/parkhistory/online_books/nps28/28chap8.htm)
- HP07 Preservation Brief #43 (see [http://www.nps.gov/tps/how-to-preserve/briefs/43-historic-structure-reports.htm](http://www.nps.gov/tps/how-to-preserve/briefs/43-historic-structure-reports.htm)

REFERENCES


U.S. Department of the Interior/National Park Service. *Preservation Briefs*. (see also: [http://www.nps.gov/tps/how-to-preserve/briefs.htm](http://www.nps.gov/tps/how-to-preserve/briefs.htm) as these may not all be available at the Marriott Library)

I29.84:1 "The Cleaning and Waterproof Coating of Masonry Buildings"
I29.84:2 "Repointing Mortar Joints in Historic Brick Buildings"
I29.84:3 "Conserving Energy in Historic Buildings"
I29.84:4 "Roofing for Historic Buildings"
I29.84:5 "Preservation of Historic Adobe Buildings"
I29.84:6 "Dangers of Abrasive Cleaning to Historic Buildings"
I29.84:7 "The Preservation of Historic Glazed Architectural Terra-Cotta"
I29.84:8 "Aluminum and Vinyl Siding on Historic Buildings"
I29.84:9 "The Repair of Historic Wooden Windows"
I29.84:10 "Exterior Paint Problems on Historic Woodwork"
I29.84:11 "Rehabilitating Historic Storefronts"
I29.84:12 "The Preservation of Historic Pigmented Structural Glass"
I29.84:13 "The Repair and Thermal Upgrading of Historic Steel Windows"
I29.84:14 "New Exterior Additions to Historic Buildings: Preservation Concerns"
I29.84:15 "Preservation of Historic Concrete: Problems and General Approaches"
I29.84:16 "The Use of Substitute Exterior Materials on Historic Building Exteriors"
I29.84:17 "Architectural Character: Identifying the Visual Aspects ..."
I29.84:18 "Rehabilitating Interiors in Historic Buildings"
I29.84:19 "The Repair and Replacement of Historic Wooden Shingle Roofs"
I29.84:20 "The Preservation of Historic Barns"
I29.84:21 "Repairing Historic Flat Plaster—Walls and Ceilings"
I29.84:22 "The Preservation and Repair of Historic Stucco"
I29.84:23 "Preserving Historic Ornamental Plaster"
I29.84:24 "Heating, Ventilating, and Cooling Historic Buildings..."
I29.84:25 "The Preservation of Historic Signs"
I29.84:26 "The Preservation and Repair of Historic Log Buildings"
I29.84:27 "The Maintenance and Repair of Architectural Cast Iron"
I29.84:28 "Painting Historic Interiors"
I29.84:29 "The Repair, Replacement, and Maintenance of Historic Slate Roofs"
I29.84:30 "The Preservation and Repair of Historic Clay Tile Roofs"
I29.84:31 “Mothballing Historic Buildings"
I29.84:32 “Making Properties Accessible”
I29.84:33 “The Preservation and Repair of Historic Stained and Leaded Glass”
I29.84:34 “Applied Decoration for Historic Interiors Preserving Comp…”
I29.84:35 “Understanding Old Buildings: The Process of Architectural Inv…”
I29.84:36 “Protecting Cultural Landscapes”
I29.84:37 “Appropriate Methods for Reducing Lead-Paint Hazards…”
I29.84:38 “Removing Graffiti from Historic Masonry”
I29.84:39 “Holding the Line: Controlling Unwanted Moisture in Historic…”
I29.84:40 “Preserving Historic Ceramic Tile Floors”
I29.84:41 “The Seismic Retrofit of Historic Buildings”
I29.84:42 “The Maintenance, Repair, and Replacement of Historic Cast Stone”
I29.84:43 “The Preparation and Use of Historic Structure Reports”
I29.84:44 “The Use of Awnings on Historic Buildings”
I29.84:45 “Preserving Historic Wooden Porches”
I29.84:46 “The Preservation and Reuse of Historic Gas Stations”
I29.84:47 “Maintaining the Exterior of Small and Medium Size Historic Buildings”
I29.84:48 “Preserving Grave Markers”


I29.84/3:1 Temporary Protection Number 1 "Historic Stairways"
I29.84/3-2:1 Historic Interior Spaces Number 1 "Preserving Historic Corridors…”
I29.84/3-2:2 Historic Interior Spaces Number 2 "Preserving Historic Corridors…”
I29.84/3-3:1 Museum Storage Collection Number 1 "Museum Storage…"
I29.84/3: 9 Windows Number 9 "Interior Storm Windows: Magnetic Seal"
I29.84/3-4:11 Windows Number 11 "Installing Insulating Glass in Existing Wood…"
I29.84/3-4:12 Windows Number 12 "Aluminum Replacements for Steel Industrial…"
I29.84/3-4:13 Windows Number 13 "Aluminum Replacement Windows…"
I29.84/3-4:14 Windows Number 14 "Reinforcing Deteriorated Wooden Windows"
I29.84/3-4:15 Windows Number 15 "Interior Storms for Steel Casement Windows"
I29.84/3-4:16 Windows Number 16 "Repairing and Upgrading …Wooden Mill…”
I29.84/3-4:17 Windows Number 17 "Repair and Retrofitting Industrial Steel…”
I29.84/3-4:18 Windows Number 18 "Aluminum Replacement Windows W/True…”
I29.84/3-6:1 Exterior Woodwork Number 1 "Proper Painting and Surface Prep…”
I29.84/3-6: 3 Exterior Woodwork Number 3 "Log Crown Repair and Selective…”
I29.84/3-7:1 Masonry Number 1 "Substitute Materials: Replacing…Serpentine…”
I29.84/3-7:2 Masonry Number 2 "Stabilization and Repair of…Terra-Cotta…”
I29.84/3-7:3 Masonry Number 3 "Water Soak Cleaning of Limestone"
I29.84/3-8: 1 Metals Number 1 "Conserving Outdoor Bronze Sculpture"
I29.84/3-8: 2 Metals Number 2 "Restoring Metal Roof Cornices"
I29.84/3-8: 3 Metals Number 3 "In-Kind Replacement of…Stamped Metal…”
I29.84/3-9:1 Mechanical Systems Number 1 "Replicating Historic Elevator…”
I29.84/3-11:1 Site Number 1 "Restoring Vine Coverage to Historic Buildings"

*Not in Marriott Library
WRITING GUIDELINES

In writing the papers for this course, keep the following criteria in mind:

1. **Proofread manually** Spellchecker is not a proofreader.
2. **Use writing format template** See HP01B&C in FILES for instructions and example.
3. **Use only third person voice** Do not use “I”, “we”, “you”, or their variants. Use only “he”, “she”, “it”, or “they”.
4. **Avoid bias** Do not include language or imagery that promotes bias (e.g., gender, race, age, creed, ethnicity, etc.).
5. **Do not use footnotes!** Cite sources of text, images, and quotes. Use *Chicago Manual of Style* “Author-date” format. Sequentially numbered endnotes may be used for more detailed explanatory information, if needed, and are placed after the end of the text (and appendices) and BEFORE the bibliography.
6. **Include a bibliography** at the end of text and after any endnotes (note: the text for this is not included in the word or page count). Use *Chicago Manual of Style* author-date formatting. References are listed alphabetically and are **NOT** numbered.
7. **Avoid contractions** (e.g., “do not” instead of “don’t”).
8. **Use active voice** (e.g. “They completed the project” instead of “The project was completed.”).
9. **Use headings** to delineate major areas of the paper (e.g., introduction of research question or issues, case studies, discussion, and conclusion).
10. **Use page numbers**. Display them in lower right corner of page (in footer section).
11. **Include captioned graphics** (e.g., “Figure 1: Front façade of XYZ building, (Young 2015)”) within the body of the text for visual interest and to clarify a point of discussion.
12. **Call out figures in text** Do not simply insert an image into the text without calling it out (e.g., “(See Figure 1”).
13. **Use appendices** where appropriate to maintain flow within the main body of the paper. Use call outs (e.g., “see Appendix A”) where appropriate in the text.
14. **Do not use Wikipedia or your textbook as a source**. Wikipedia is not peer-reviewed and is therefore not considered a valid resource. The class text is a starting point but it is information that is already in hand. Move beyond it.
PROJECT 1: RESEARCH PAPER 1

Introduction

Historic preservation technology encompasses a diverse range of materials, evaluation processes, and analytical methods that result in the optimization of performance of existing buildings. Students will individually develop a case study based on challenges faced in the preservation of urban environments.

Objectives

• To explore historic preservation technology as it affects current practice.
• To encourage development of student research skills.
• To encourage development of student oral presentation skills.
• To encourage development of student writing skills.

Case Study Paper Themes

The paper will use the case study approach drawn from these possible themes:

• Material Conservation in Urban Environment: Cities present challenges for the conservation of building materials that must perform in high pollution, extreme exposure, and difficult-to-access locations. These concerns affect material maintenance, durability and the specification and installation of repairs; and often require testing and scientific assessment to determine appropriate new and restoration materials.

• Balancing Change, Preservation, and Development: The long term success of historic preservation in urban environments requires the active collaboration of preservationists with design professionals, developers, community members and others, to balance development pressures with the desire to retain historic streetscapes, buildings, open spaces, etc. The effectiveness of the integration of often-conflicting goals bears directly on the success or failure of preservation in a city and, ultimately, the retention or loss of a city’s character and diversity.

• Energy Use and Conservation: Improved energy generation and efficiency is essential for worldwide economic growth and environmental protection. Energy has become a private and public sector priority that drives international politics and national, state and local policy and direct investment in new and existing buildings. Through desired or required building performance, energy concerns will continue to have tremendous effects on the preservation of the existing built environment.
Products

Paper: All papers must follow the format template shown in FILES. Based on their research findings, each student will prepare a 3000-word paper as formatted in the writing template provided in the class Canvas files. Graphics should be integrated within the text to highlight key points. All graphics or images not originally developed by the students must be given proper bibliographic credit. All graphics and images must be called out in the text and have captions. Students should use the Chicago Manual of Style as the basis of their writing. All assertions and conclusions should be based on existing factual evidence and not just opinion or conjecture.

Typically, a professionally written research paper will have the following parts:

- **Abstract** Gives a brief summary (1-2 paragraphs, typically 250 words) of the entire paper. In long reports, this is typically done in one or more pages as an “Executive Summary”. The abstract is a standalone element and does not substitute for the actual introduction in the paper.
- **Introduction** Provides overview of subject of the paper, explains why the topic is important, and states the research question(s).
- **Methodology** Describes methods used to collect and refine data.
- **Analysis and Discussion** Develops evidence for arguments supporting or negating the research question. This can include one or more case studies as examples. It also includes a summation of the evidence found in the research.
- **Conclusion** Provides final statements answering and regarding the validity of the research question.
- **Bibliography** Includes an alphabetized list of all resources used in preparing the paper.
- **End Notes (optional)** Provide short explanatory notes to clarify a point in the text without disrupting the flow.
- **Appendices (optional)** Includes one or more appendices with more detailed or lengthy information that would otherwise disrupt the flow of the main body of the paper.

The paper should be based on a minimum of five (5) separate reference sources. Appropriate digital references include those published by government agencies, trade associations and professional societies, manufacturers, libraries, newspapers and magazines, and peer-reviewed journals. **Non peer-reviewed sources (e.g., Wikipedia) will not be accepted as an appropriate resource.**

Presentation: Each student will make an oral presentation to convey an overview of the paper including the major findings and expected trends implied within the case study. The length of the presentation time will be determined once the class
size has been finalized. Audio-visual aids (e.g. computer/projection equipment) will be the responsibility of the student. **Do not use PREZI.**

The paper is due on the date shown on the syllabus. On Canvas, submit a copy of the paper and presentation in their native format (e.g., docx, pptx) and a copy in pdf format. Do not submit .zip files.

**Grading**

Grading will follow the project rubric as shown on Canvas. Refer to **WRITING GUIDELINES** for requirements in preparing your submission for this assignment. Papers not following the guidelines will be penalized accordingly. Overall, the assignment will be graded on completeness, accuracy, technical comprehension, legibility (e.g., grammar, adherence to writing template, professional writing style), and originality. Assignments that demonstrate bias or a lack of objectivity will be penalized. Assignments will also be penalized in accordance with the late policy described earlier in this syllabus.
PROJECT 2: RESEARCH PAPER 2

Introduction

Historic preservation technology encompasses a diverse range of materials, evaluation processes, and analytical methods that result in the optimization of performance of existing buildings. Students will individually develop a case study based on an overall theme of building analysis and assessment.

Objectives

• To explore historic preservation technology as it affects contemporary practice.
• To encourage development of student research skills.
• To encourage development of student oral presentation skills.
• To encourage development of student writing skills.

Case Study Paper Topic Areas

The paper will use a case study approach to describe historic preservation technology drawn from this list of possible topics:

• Non-destructive testing/non-destructive evaluation
• Architectural forensics/ building failures
• Architectural materials of the late-20th century
• Sustainability interventions
• Measurement, recording, and documentation processes
• Performance standards (LEED, Energy Star, BREEAM)
• Sustainability metrics (LCA, embodied energy, embodied carbon)
• Resilience in historic buildings

Products

Paper: All papers must follow the format template shown in FILES. Based on their research findings, each student will prepare a 3000-word paper as formatted in the writing template provided in readings HP01B&C in FILES). Graphics should be integrated within the text to highlight key points. All graphics or images not originally developed by the students must be given proper bibliographic credit. All graphics and images must be called out in the text and have captions. Students should use the Chicago Manual of Style as the basis of their writing. All assertions and conclusions should be based on existing factual evidence and not just opinion or conjecture.

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Introduction  Provides overview of subject of the paper, explains why the topic is important, and states the research question(s).

Methodology  Describes methods used to collect and refine data.

Analysis and Discussion  Develops evidence for arguments supporting or negating the research question. This can include one or more case studies as examples. It also includes a summation of the evidence found in the research.

Conclusion  Provides final statements answering and regarding the validity of the research question.

Bibliography  Includes an alphabetized list of all resources used in preparing the paper.

End Notes (optional)  Provide short explanatory notes to clarify a point in the text without disrupting the flow.

Appendices (optional)  Includes one or more appendices with more detailed or lengthy information that would otherwise disrupt the flow of the main body of the paper.

The paper should be based on a minimum of five (5) separate reference sources. Appropriate digital references include those published by government agencies, trade associations and professional societies, manufacturers, libraries, newspapers and magazines, and peer-reviewed journals. **Non peer-reviewed sources (e.g., Wikipedia) will not be accepted as an appropriate resource.**

Presentation: Each student will make an oral presentation to convey an overview of the paper including the major findings and expected trends implied within the case study. The length of the presentation time will be determined once the class size has been finalized. Audio-visual aids (e.g. computer/projection equipment) will be the responsibility of the student. **Do not use PREZI.**

The paper is due on the date shown on the syllabus. On Canvas, submit a copy of the paper and presentation in their native format (e.g., docx, pptx) and a copy in pdf format. Do not submit .zip files.

Grading

Grading will follow the project rubric as shown on Canvas. Refer to **WRITING GUIDELINES** for requirements in preparing your submission for this assignment. Papers not following the guidelines will be penalized accordingly. Overall, the assignment will be graded on completeness, accuracy, technical comprehension, legibility (e.g., grammar, adherence to writing template, professional writing style), and originality. Assignments that demonstrate bias or a lack of objectivity will be penalized. Assignments will also be penalized in accordance with the late policy described earlier in this syllabus.
PROJECT 3: HSR

Overview

Historic Structures Reports (HSR) document existing conditions of an historic resource and provide recommendations for planning any restoration or alteration work on an historic resource. The formal requirements are explicitly defined in the Cultural Resource Management Guideline and Preservation Brief 43 (see Readings HP-6 & HP-7). Due to time constraints in completing this course, the project format will include an abbreviated version of the information commonly found in an HSR used by the U.S. Department of the Interior. Refer to HP-8 for the Fisher Mansion HSR that serves as the prototype for this course. An HSR typically includes the following:

The Introduction is a concise account of research done to produce the HSR, major research findings, major issues identified, and recommendations for treatment and use. Administrative data on the structure also are included.

Part 1, Developmental History, is a scholarly report documenting the evolution of a historic structure, its current condition, and the causes of its deterioration. It is based on documentary research and physical examination. The scope of documentary research may extend beyond the physical development of the structure if needed to clarify the significance of the resource or to refine contextual associations; however, major historical investigation of contextual themes or background information should be conducted as part of a separate historic resource study.

Part 2, Treatment and Work Recommendation, presents and evaluates alternative uses and treatments for a historic structure. Emphasis is on preserving extant historic material and resolving conflicts that might result from a structure's "ultimate treatment." Part 2 concludes by recommending a treatment and use responding to objectives identified by property owner. In most cases, design work does not go beyond schematics.

Notes, Bibliography, and Appendices include the endnotes, bibliographic information (annotated, if possible), lists of information sources (e.g., archives, photograph collections), and appendices (e.g., figures, tables, drawings, reference documents, material analysis reports).

Supplements Record of Work Performed (also known as “Part 3”) is a compilation of information documenting actual treatment. It includes accounting data, photographs, sketches, and narratives outlining the course of work, conditions encountered, and materials used.

* Not required for ARCH 6570 project.
All aspects of a historic structure and its immediate grounds should be addressed in the HSR. Potential overlaps with other cultural resource types and natural resource issues should be identified, and applicable studies and reports should be called for or referenced. An HSR and analogous reports (e.g., a cultural landscape report) may be combined to address multiple resource types at a single property or area.

Structure and Content

This outline (as adapted from Preservation Brief 43) is to be used in developing the HSR for ARCH-6570 with suggested content given below headings:

COVER PAGE
DISCLAIMER
TABLE OF CONTENTS
INTRODUCTION

Study Summary
A. Research done to produce the HSR
B. Major research findings
C. Major issues identified
D. Recommendations for treatment or use

Project Data
A. General location information to identify building and property owner
   - Indicate property address, vicinity map, contact person (address/telephone number), and other tracking information.
B. Proposed treatment of the property
   - Describe general or specific intentions for future use (Note: for ARCH-6570, this will be a rehabilitation treatment).
C. Cultural resource data
   - Provide National Register of Historic Places or Utah Statewide inventory listing date, period of significance, and context of significance.
D. Related studies
   - List/describe published or unpublished works describing property and/or its history.

PART 1 DEVELOPMENTAL HISTORY
A. Historical Background and Context
   - Describe a brief history of the building and its context and identify designers, builders, and persons associated with its history.
B. Chronology of Development and Use
   - Describe the original construction, modifications, and uses based on historical documentation and physical evidence.
C. Physical Description
• Provide systematic accounting of all elements, materials, and spaces, including significant and non-significant features of the building.

D. Evaluation of Significance
• Discuss the significant features, original and non-original materials and elements, and identification of periods of significance (if there is more than one)

E. Condition Assessment
• Discuss the condition of the building materials, elements, and systems and the causes of their deterioration.

PART 2 TREATMENT AND WORK RECOMMENDATIONS
A. Historic Preservation Objectives
• Provide narrative discussion and analysis of the recommended treatment (preservation, rehabilitation, restoration, or reconstruction) and how it meets the overall goals of the project.

B. Requirements for work
• Provide concise outline of laws, regulations, and functional requirements affecting proposed treatments and pay specific attention to human safety, fire protection, energy conservation, hazardous material abatement, and handicapped accessibility.

C. Alternatives for treatment
• Present and evaluate alternative approaches to the realization of the ultimate treatment in both text and graphic form.
• Conclude with commentary on the appropriateness of recommended course of action and specific recommendations for preservation treatments.

APPENDIX
A. Bibliography
B. Floor Plans/Drawings (if not already included in main body of report)
C. Photographs (if not already included in main body of report)
D. Materials Analysis (if applicable)
E. Other
HSR Assignment

Introduction

Historic Structures Reports (HSR) are used to document existing conditions of an historic resource (e.g., buildings and structures) and provide the initial materials for planning any rehabilitation work on that historic resource. This project is designed to familiarize the student with developing a typical HSR.

Objective

The objective of this assignment is to document the existing conditions of a historic resource and to develop a prioritized list of recommendations for the future use, rehabilitation, and maintenance of that resource.

Method

Develop a history and trace the ownership and usage of the building.

Document the existing condition of the historic resource. Prepare sketches of floor plans and photograph all significant features and problems (use electronic images for report).

Develop a chronologic renovation history. Determine when alterations were made to the building (levels of expertise will vary in this area but give it your best shot). This may be substantiated by archival research off-site.

Evaluate overall conditions and list prioritized actions for future use, rehabilitation, and maintenance of the building. The premise of this project will be to proceed as though a rehabilitation of the existing resource is the final goal.

Compile into a report (format to be discussed in class).

 Prepare an audio-visual presentation for the class. Length will be determined by class size. The presentation should illustrate the major aspects of the final HSR as submitted for grading. The presentation should include visual images that show historic background information as well as the existing overall building, its interior spaces, its most significant features and its most significant problems.

When projects are not assigned by the instructor, students will identify a building of their own choosing. Team size will be determined by the class size and complexity of buildings selected. Potential buildings include small to medium-sized, detached, single-family residential buildings, small commercial buildings, or large outbuildings (e.g., a barn). Each team will identify and work on a building. If not assigned by the instructor, at least one team member must have a personal connection to the property owner (e.g., family, friend, employer, etc.). Obtaining permission for access to property and the building interior is the responsibility of the student team. Access is a critical aspect of this project since
interior conditions must be available for assessment and documentation. Permission to proceed on any building must be obtained from the instructor.

Limitations

There is to be no physical damage (scrapping, sanding, etc.) done during the building inspection without prior specific written permission of the owner.

Students are responsible for their own safety during the inspection. Any student injuries or damage to the subject properties incurred during site investigation work must be reported to the instructor or to the College of Architecture + Planning as soon as it is safe to do so such that an incident report can be filed.

Grading

Since this is the major semester project, work will be ongoing throughout the semester. Teams will meet with the instructor as noted on the syllabus to ensure steady progress on the project. The status reports will include the following information:

- Status Report 1: Team roster, confirmation of building selection, a summary of preliminary research on building ownership and usage history (an actual draft may be submitted for critique).
- Status Report 2: Update from earlier status report; preliminary floor plans and elevations; typical photographs; a summary of chronologic renovation history (an actual draft may be submitted for critique); preliminary assessment of building problems and specific primary areas of concern; prioritization of overall concerns.

Teams will provide examples (both oral and written) of their progress. The status reports will be used to assess steady progress towards completing the HSR that will be considered in the final grade for the project. The ongoing work on the HSR throughout the semester will minimize time conflicts typically present at the end of the semester.

The oral presentation and submitted HSR will be evaluated as shown on the grading rubric on Canvas. Refer to WRITING GUIDELINES for requirements in preparing your submission for this assignment. Papers not following the guidelines will be penalized accordingly. Overall, the assignment will be graded on completeness, accuracy, technical comprehension, legibility (e.g., grammar, adherence to writing template, professional writing style), and originality. Assignments that demonstrate bias or a lack of objectivity will be penalized. Assignments will also be penalized in accordance with the late policy described earlier in this syllabus.
Products

Students will make an oral presentation of their findings to the class. **Note: Do not use Prezi.** Students will upload the final report and the final presentation file to Canvas. These uploads will include a native version (e.g., .docx, .indd, .pub, .pptx) and a .pdf version of each product. **Do not submit .zip files.**

Submit two printed, color originals (8-1/2” x 11”) of the final bound report to the instructor. Each copy must include a CD with the HSR on it in a secured pocket sleeve in the report.

Disclaimer

Include the following disclaimer at the beginning of the report:

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**Disclaimer**

This report was written in partial fulfillment of the course requirements for ARCH-6570 "Preservation Technology" offered by the University of Utah College of Architecture + Planning. This report is part of an academic exercise intended to provide the student with a "hands on" experience in historic preservation planning. **The building owner is advised that the recommendations proposed in this report must be validated as "appropriate" by a licensed architect, licensed engineer, or other accredited personnel prior their implementation.**

In all cases the University of Utah, the College of Architecture + Planning, the personnel associated with the administration of this course, and the report author(s) shall be held harmless in any action concerning damage to the subject property and/or improvements as well as injuries to occupants based on the implementation of any portion of the material content of this report.
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HSR GRADING FORM

Name(s): ________________________________________________________

Project: __________________________________________________________

Scope of Work Performed (comprehensiveness of research/technical accuracy):

- Thoroughness of physical research on site.  _____
- Thoroughness of archival research.  _____
- Technical comprehension and accuracy.  _____

Completeness (meeting minimum project requirements):

- Representative of appropriate level of work.  _____
- Description of occupancy record and physical chronology.  _____
- Description of existing physical conditions.  _____
- Description and appropriateness of recommendations.  _____

Overall Format (writing quality):

- Adherence to accepted research documentation practices.  _____
- Inclusion and organization of text and graphic materials.  _____

Oral Presentation (verbal content and presentation):

- Presentation/organization of materials.  _____
- Technical comprehension and accuracy.  _____

Overall Grade:  _____

Comments:

BUILDING INSPECTION

REVIEW ANY EXISTING FLOOR PLANS FIRST.
PHOTOGRAPH OVERALL VIEWS OF BUILDING, FACADES, SPACES.
PHOTOGRAPH UNIQUE FEATURES AND PROBLEMS.
WRITE DOWN ALL FINDINGS.

1. Look at building exterior in general
   • note sagging structural elements/confirm source
   • note general level of repair or missing features
   • identify significant changes

2. Check roof condition
   • note sagging
   • note missing/damaged materials.

3. Enter building and go to lowest level (basement/crawl space)
   • check for structural problems/confirm source
   • check for water problems/confirm source
   • check for signs of alterations.

4. Go to highest level (attic/crawl space)
   • check for structural problems/confirm source
   • check for water problems/confirm source
   • check for signs of alterations.

5. Proceed room by room through building
   • define floor plan on sketch if not already done
   • identify problems and sources (try all fixtures and hardware)
   • identify historic features (doors, windows, floors, lighting, etc.)
   • identify alterations (material uniformity, "peek and poke behind and around")
   • note all findings on a form for each space
   • trace continuity of defects.

6. Return outside and proceed to each facade
   • identify problems and sources (try all fixtures and hardware)
   • identify historic features (doors, windows, coal chutes, lighting, etc.)
   • identify alterations (material uniformity, "peek and poke behind and around")
   • note all findings on a form for each facade
   • trace continuity of defects.

7. Repeat 1-6 for each building on the property.

8. Walk the site along perimeter and then explore site
   • sketch site plan/identify site features
   • locate and note overgrown elements or suspicious landscaping

9. Look at how neighboring buildings are similar or different

10. Compile overall summary of impressions about building/site/setting.