



ARCH 557: SUSTAINABLE CONSERVATION OF OF THE HISTORIC BUILT ENVIRONMENT

Units:2

Term—Day—Time: ...Fall 2024 – Fridays – 8:00 to 10:00 am

Location:.....Harris Hall, Room 102

Instructor:John D. Lesak, AIA, LEED AP, FAPT

Office: Virtual Meetings
(Off campus: 523 West 6th Street – Suite 1013, Los Angeles 90014)

Office Hours: By Appointment

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Teaching Assistantto be determined

Course Description

“Sustainable Development meets the needs of the present without compromising the ability of future generations to meet their own needs...”¹

Can heritage conservation...

- Respect the “Triple Bottom Line”?
- Inform a more “circular economy”²?
- Reduce the environmental impact of the built environment?
- Promote environmental justice?

Are historic places/professional practice evolving in response to changing ideas of how we care for the land and important places?

Where do historic places and heritage conservation fit in planning for climate adaptation and resilience?

This course explores the intersection between Heritage Conservation and Green Building, both of which contribute to sustainable development. Heritage Conservation offers an ethos of stewardship; definitions of ‘significance’ within the built environment; methods for extending the service-life of buildings; strategies for appropriate maintenance and repair; and effective means for adaptively reusing buildings. Green Building promotes holistic design; rapid response to the urgency of climate change; and encouragement to consider new and evolving systems and technology. By exploring a variety of approaches to conserving built environments, students will

¹ Gro Harlem Brundtland / World Commission on Environment and Development, Our Common Future, Oxford University Press, 1987.

² <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

be able to identify and differentiate between applicable methods for assessing sustainability; develop appropriate metrics; apply evaluation tools; and decide upon appropriate treatments to improve historic and existing building performance and enhance historic rehabilitation and adaptive reuse projects.

Learning Objectives

At the end of this course, students will be able to:

1. Recognize **both** the character-defining and inherently sustainable features of heritage sites.
2. Identify options for repairing/rehabilitating/reusing/upgrading heritage buildings.
3. Estimate both short and long-term impacts of various repair/rehabilitation/reuse/upgrade options using basic strategies and readily available (online) evaluation tools.
4. Select repair/rehabilitation/reuse/upgrade options that minimize (balance) the impacts on the historic resource AND the natural environment

Prerequisite(s) / Co-Requisite(s) / Concurrent Enrollment: None

Course Notes: Copies of lecture slides and weekly reading (other than the primary text) will be posted on Brightspace. Lecture slides will be posted following class.

The course uses U.S. based standards, units, and sources of information, based on use and familiarity of the instructor. I try to include more global perspectives and information and input from international students is encouraged.

Communication: Communication and collaboration are essential for professionals working on heritage sites. Therefore, I want you to feel comfortable asking questions and giving me feedback on this course just as I, and your classmates, will be providing you with feedback on your assignments. If you have questions or comments, please email or call me (contact information above).

I try to respond to emails/voicemails within 48 hours Monday-Friday. Please understand that I direct a robust historic architecture practice, balancing numerous deadlines and responsibilities that may affect my ability to respond immediately. If a quicker response is required, use jdlesak@gmail.com / 323 945 5204 (mobile).

Technological Proficiency and Hardware/Software Required: Coursework requires using a variety of free, downloadable software and online analytical tools. Experience has shown subtle differences in performance using depending on the browsers or operating systems used by the students. To date, these differences have not prohibited students from completing the work.

Primary Text: Jean Carroon, Sustainable Preservation | Greening Existing Buildings, Hoboken, NJ: John Wiley & Sons, 2010.

Suggested Text: Stewart Brand, How Buildings Learn: What Happens After They're Built. New York: Viking, 1994.

Grading Breakdown

% of Grade	Assignment
10%	2. EcoCalculator Exercise
15%	3. Historic House – Character-Defining and Inherently Sustainable Features
15%	4. Historic House - Energy Modeling Exercise
10%	5. Historic House - Los Angeles County Solar Report Exercise
25%	1. Impact Area Class Presentation & Report
10%	6. Historic House - Green Building Rating System
15%	Class Participation
100%	TOTAL

Grading Scale

Course final grades will be determined using the following scale:

A	94-100
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignment Submission: Digital copies of assignments will be emailed to the instructor (lesak@usc.edu) in .pdf format. Graded assignments will be returned to students via email.

Grading Timeline: Instructor will endeavor to return graded work with two weeks from submission deadline.

Late Work: Assignments carry a 5-point grade deduction (out of 100) per every 24 hours late. If you miss submitting work for an unavoidable emergency, notify the instructor by email and discuss the situation with the instructor during office hours.

Participation/Attendance: Much of the course content will be provided in course lectures. More importantly, students and professionals (and instructors) benefit from a free and open discussion and exchange of ideas. This exchange cannot occur without students attending class. The first two unexcused absences will each result in a 15-point deduction from the Class Participation grade (out of 100 points). Three unexcused absences will result in a zero Class Participation grade.

Reading: Required weekly reading assignments are listed in the lecture schedule in this Syllabus. These readings should be completed before the lecture under which they are listed. Items indicated as “Review” should be quickly scanned to become generally familiar with terms and concepts. Items indicated “Reference” are listed for information only.

Academic Integrity

The University of Southern California is foremost a learning community committed to fostering successful scholars and researchers dedicated to the pursuit of knowledge and the transmission of ideas. Academic misconduct is in contrast to the university's mission to educate students through a broad array of first-rank academic, professional, and extracurricular programs and includes any act of dishonesty in the submission of academic work (either in draft or final form).

This course will follow the expectations for academic integrity as stated in the [USC Student Handbook](#). All students are expected to submit assignments that are original work and prepared specifically for the course/section in this academic term. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s). Students suspected of engaging in academic misconduct will be reported to the Office of Academic Integrity.

Other violations of academic misconduct include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

Academic dishonesty has a far-reaching impact and is considered a serious offense against the university. Violations will result in a grade penalty, such as a failing grade on the assignment or in the course, and disciplinary action from the university itself, such as suspension or even expulsion.

For more information about academic integrity see the [student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment or what information requires citation and/or attribution.

This course aims to develop creative, analytical, and critical thinking skills. Therefore, all assignments should be prepared by the student working individually or in groups. Students may not have another person or entity complete any substantive portion of the assignment. Developing strong competencies in these areas will prepare you for a competitive workplace. Therefore, using AI-generated text, code, or other content is prohibited in this course, will be identified as plagiarism, and will be reported to the Office of Academic Integrity.

Course Content Distribution and Synchronous Session Recordings Policies

USC has policies that prohibit recording and distribution of any synchronous and asynchronous course content outside of the learning environment.

Recording a university class without the express permission of the instructor and announcement to the class, or unless conducted pursuant to an Office of Student Accessibility Services (OSAS) accommodation. Recording can inhibit free discussion in the future, and thus infringe on the academic freedom of other students as well as the instructor. ([Living our Unifying Values: The USC Student Handbook](#), page 13).

Distribution or use of notes, recordings, exams, or other intellectual property, based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study. This includes but is not limited to providing materials for distribution by services publishing course

materials. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relation to the class, whether obtained in class, via email, on the internet, or via any other media. Distributing course material without the instructor's permission will be presumed to be an intentional act to facilitate or enable academic dishonesty and is strictly prohibited. ([Living our Unifying Values: The USC Student Handbook](#), page 13).

and concepts. Items indicated "Reference" are listed for information only.

Course Schedule

<p>Week 1 August 30</p>	<p>Part 1: Looking at the Built Environment Through the Lens of Time</p> <p>Part 2: Historic Preservation Basics</p> <p>References:</p> <p>Brand, Chapter 1. Flow and Chapter 2. Shearing Layers, pages 2-23.</p> <p>Neil Howe and William Strauss, <i>“The Next 20 Years: How Customer and Workforce Attitudes Will Evolve.”</i> Harvard Business Review, July-August 2007, pages 41-52.</p> <p>Richard Florida, <i>The Great Reset: How New Ways of Living and Working Drive Post-Crash Prosperity</i>, Harper Collins, 2010. Part 1: Past as Prologue, pages 3-48.</p> <p><i>The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings</i>, issued 2017. https://www.nps.gov/tps/standards.htm</p>
<p>Week 2 Sept. 6</p>	<p>Crisis - Climate</p> <p>Read:</p> <p>Carroon, Chapter 1.1 Climate Change and Buildings – The Imperative, pages 17-21</p> <p>Union of Concerned Scientists, National Landmarks at Risk – Executive Summary, 2014. http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/National-Landmarks-at-Risk-Executive-Summary.pdf</p> <p>Review:</p> <p>World Commission on Environment and Development, Our Common Future, 1987. Part I, Chapter 1: A Threatened Future. http://www.un-documents.net/our-common-future.pdf</p> <p>National Aeronautics and Space Administration, Global Climate Change: Vital Signs of the Planet website. http://climate.nasa.gov/evidence/</p> <p>ASSIGNMENT 1: Impact Area Class Presentation & Report</p>

<p>Week 3 Sept. 13</p>	<p>Part 1: Crisis – Social/Racial/Environmental Justice</p> <p>Part 2: The Triple Bottom Line – Planet, People, & Profit</p> <p>Read: Carroon, Chapters 2.1 to 2.3, pages 43-52</p> <p>Review: Richard Rothstein, <i>The Color of Law</i>, New York: Liveright Publishing Co., 2017. Chapters 3 through 5, pages 39-93.</p> <p>Watch: Cary, John How Architecture Can Create Dignity for All, Ted Talk. https://www.ted.com/talks/john_cary_how_architecture_can_create_dignity_for_all</p> <p>Akom, Antwi, Innovation out of poverty, TEDxSacramentoSalon https://www.youtube.com/watch?v=YvrLFgikLZQ</p>
<p>Week 4 Sept. 20</p>	<p>Energy, Greenhouse Gases, & the Built Environment</p> <p>Read: Carroon, Chapter 1: Buildings and Environmental Stewardship – Understanding the Issues, pages 3 – 42.</p> <p>Mike Jackson, “Embodied Energy and Historic Preservation: A Needed Reassessment”. <i>APT Bulletin</i>, Vol. 36, No. 4 (2005) pages 47-52.</p> <p>William I. Whiddon, “The Concept of Embodied Energy” in <i>New Energy from Old Buildings</i>, ed. The Nation Trust for Historic Preservation, 1980, pages 112 through 119.</p> <p>James Vaseff, “Using the Embodied Energy Argument in Local Planning Controversies” in <i>New Energy from Old Buildings</i>, ed. The Nation Trust for Historic Preservation, 1980, pages 120 through 127.</p>
<p>Week 5 Sept. 27</p>	<p>Built to Last? Service Life & Durability</p> <p>Read: Carroon, Chapter 7.4: Resource Optimization – Extending Service Life, pages 260 – 263.</p> <p>Pamela Jerome, “Sustainability: The Case for Long-Term Service Life and Built-In Redundancy”. <i>APT Bulletin</i>, Vol. 41, No. 1 (2010) pages 37-42.</p> <p>Brand, Chapter 8. The Romance of Maintenance, pages 110-131.</p> <p>ASSIGNMENT 2: EcoCalculator</p>

<p>Week 6</p> <p>Oct. 4</p>	<p>Life Cycle Analysis</p> <p>Review:</p> <p>Preservation Green Lab The National Trust for Historic Preservation, “The Greenest Building: Quantifying the Environmental Value of Building Re-use”, 2011</p>
<p><i>Oct. 5</i></p>	<p><i>Possible Field Trip</i></p>
<p>Week 7</p> <p>Oct. 11</p>	<p>Fall Recess</p>
<p>Week 8</p> <p>Oct. 18</p>	<p>Part 1: Character-Defining Features</p> <p>Part 2: Inherent Sustainability</p> <p>Read:</p> <p>Brand, Chapter 7. Preservation: A Quiet, Populist, Conservative, Victorious Revolution, pages 88-109, and Chapter 9: Vernacular: How Buildings Learn From Each Other, pages 132 – 155.</p> <p>Baird M. Smith, “Making Buildings Work the Way They Were Intended” in <i>New Energy from Old Buildings</i>, ed. The Nation Trust for Historic Preservation, 1980, pages 63 through 86.</p> <p>Review:</p> <p>World Commission on Environment and Development, <i>Our Common Future</i>, 1987. Part I, Chapter 2: Towards Sustainable Development. http://www.un-documents.net/our-common-future.pdf</p> <p>Whole Building Design Guide – User Guide, Parts 1 through 4. http://www.wbdg.org/wbdg_ug.php</p> <p>ASSIGNMENT 2 DUE</p> <p>ASSIGNMENT 3: - Historic House Character-Defining and Inherently Sustainable Features</p>

<p>Week 9</p> <p>Oct. 25</p>	<p>Locations & Linkages</p> <p>Read:</p> <p>John C. Keene, “The Links between Historic Preservation and Sustainability: An Urbanist’s Perspective” from <i>Managing Change: Sustainable Approaches to the Conservation of the Built Environment 4th Annual International Symposium organized by US/ICOMOS, the Graduate Program in Historic Preservation of the University of Pennsylvania and the Getty Conservation Institute Philadelphia</i>, ed. Jeanne Marie Teutonico and Frank Matero, 2001, pages 11-21.</p> <p>Review:</p> <p>Richard Florida, <i>The Great Reset: How New Ways of Living and Working Drive Post-Crash Prosperity</i>, Harper Collins, 2010. Part III: A New Way of Life, pages 105-187.</p> <p>Student Impact Area Presentations (Assignment 1)</p>
<p>Week 10</p> <p>Nov. 1</p>	<p>Sustainable Sites + Water Efficiency</p> <p>Read:</p> <p>Carroon, Chapter 4: Water and Site, pages 127-166.</p> <p>Student Impact Area Presentations (Assignment 1)</p> <p>ASSIGNMENT 3 DUE</p> <p>ASSIGNMENT 4: Historic House - Energy Modeling Exercise</p>
<p>Week 11</p> <p>Nov. 8</p>	<p>Energy</p> <p>Read:</p> <p>Carroon, Chapter 5: Energy – Not the Only Issue but..., pages 167-216.</p> <p>John H. Cluver and Brad Randall, “Saving Energy in Historic Buildings: Balancing Efficiency and Value”. <i>APT Bulletin</i>, Vol. 41, No. 1 (2010) pages 5-12.</p> <p>English Heritage, <i>Energy Efficiency and Historic Buildings Application of Part L of the Building Regulations to Historic and Traditionally Constructed Buildings</i>, 2004, Chapters 3-5, pages 22-58.</p> <p>Bill McKibben, Global Warming’s Terrifying New Math. <i>Rolling Stone</i>, August 2, 2012.</p> <p>Student Impact Area Presentations (Assignment 1)</p>

<p>Week 12</p> <p>Nov. 15</p>	<p>Materials & Resources</p> <p>Read:</p> <p>Carroon, Chapter 7: Materials and Resources – Reduce, Repair, Reuse, Recycle, pages 251-288.</p> <p>Student Impact Area Presentations (Assignment 1)</p> <p>ASSIGNMENT 4 DUE</p> <p>ASSIGNMENT 5: Historic House - Solarmap</p>
<p><i>Nov. 16</i></p>	<p><i>Possible Field Trip</i></p>
<p>Week 13</p> <p>Nov. 22</p>	<p>Environmental Quality</p> <p>Part 1: Let’s Not Poison Ourselves / Part 2: The Indoor–Outdoor Relationship</p> <p>Read:</p> <p>Carroon, Chapter 6: Indoor Health – Light, Air, and Health, pages 217-250.</p> <p>Student Impact Area Presentations (Assignment 1)</p> <p>ASSIGNMENT 5 DUE</p> <p>ASSIGNMENT 6: Historic House - Preliminary GreenPoint Checklist</p>
<p>Week 14</p> <p>Nov. 29</p>	<p>No Class - Thanksgiving Recess</p>
<p>Week 15</p> <p>Dec. 6</p>	<p>Resilience! Mitigation vs. Adaptation</p> <p>Read:</p> <p>May Cassar, “Sustainable Heritage: Challenges and Strategies for the Twenty-First Century”. <i>APT Bulletin</i>, Vol. 40, No. 1 (2009) pages 3-11.</p> <p>Graham Fairclough, “Cultural Landscape, Sustainability, and Living with Change?” from <i>Managing Change: Sustainable Approaches to the Conservation of the Built Environment 4th Annual International Symposium</i> organized by US/ICOMOS, the Graduate Program in Historic Preservation of the University of Pennsylvania and the Getty Conservation Institute Philadelphia, ed. Jeanne Marie Teutonico and Frank Matero, 2001, pages 23-46.</p> <p>ASSIGNMENT 5 DUE</p>

Statement on University Academic and Support Systems

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. [The Office of Student Accessibility Services \(OSAS\)](#) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Student Financial Aid and Satisfactory Academic Progress:

To be eligible for certain kinds of financial aid, students are required to maintain Satisfactory Academic Progress (SAP) toward their degree objectives. Visit the [Financial Aid Office webpage](#) for [undergraduate-](#) and [graduate-level](#) SAP eligibility requirements and the appeals process.

Support Systems:

[Counseling and Mental Health](#) - (213) 740-9355 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline consists of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

[Reporting Incidents of Bias or Harassment](#) - (213) 740-2500

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

[The Office of Student Accessibility Services \(OSAS\)](#) - (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

[USC Campus Support and Intervention](#) - (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

[Diversity, Equity and Inclusion](#) - (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

[USC Emergency](#) - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

[USC Department of Public Safety](#) - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

Non-emergency assistance or information.

[Office of the Ombuds](#) - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

[Occupational Therapy Faculty Practice](#) - (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.