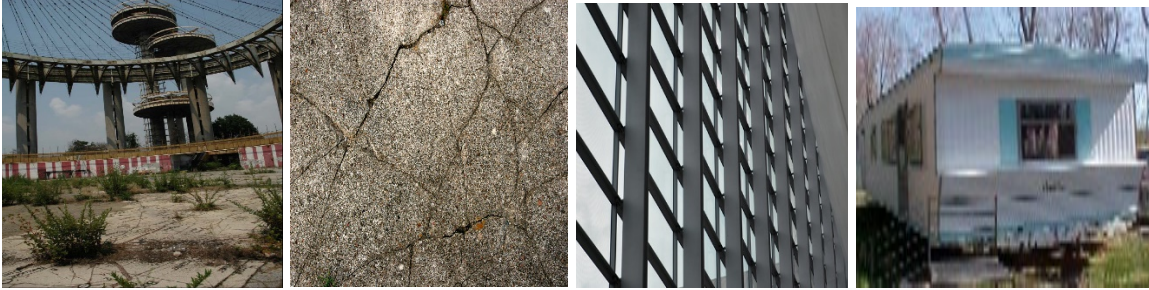


HSPV 741 TOPICS IN CONSERVATION: MODERN MATTERS

Spring 2022/ Tuesday/10:15-1:15/ TBD

Prof. Frank Matero (fgmatero@design.upenn.edu) 117 Meyerson/tel.215.898.3169
Office hours: Thursday 2:00-4:00. Sign up for appointment in person or remote at <https://calendly.com/fgmatero> Other times by email request.
Prof. Irene Matteini (imattein@gmail.com)
TA: TBD



Description

This research seminar will address the thorny issues surrounding the conservation of modern built heritage. The course will begin with a discussion about the challenges of conserving the 'recent past' within the framework of contemporary conservation philosophy and practice and then move into issues of performance, weathering, and intervention strategies as understood through historical and scientific inquiry. Lectures will focus on a select number of common materials, systems, and practices that defined the latter 20th century such as reinforced concrete, curtain walls, and pre-fabrication. Case studies will illustrate the discussed concepts and demonstrate practical conservation solutions.

Structure

Weekly lectures will introduce the basic organizational framework of the course: *History/Theory of the Recent Past, Concrete, Curtain Wall, and Prefabrication*. Students will study specific topics of their choice through research contributing toward greater understanding of specific technologies that defined the post war era and their conservation challenges today.

Requirements

Grades will be based on the research proposal and research paper and class discussions on the readings. Grading will be in accordance with general academic policies: a grade of A/A- will represent exceptional work, B/B+ will represent good work that meets the

academic standard set for the course, and B- will represent work that is just under the established standard. C and C+ are barely passing for graduate courses and will indicate work that is less than satisfactory. Failure to meet the minimum requirements will result in an F. All work is to be delivered on the dates described in the syllabus or agreed upon in class if changed. Final grades will be based on contribution to class discussions (20%), Research Proposal (30%) and Research Report (50%). More detailed specifications for the Research Papers are in separate guidelines and at the end of the syllabus.

Students are expected to attend all classes for the entire scheduled meeting time and are responsible for completing assignments and for knowing the material covered in class. Students are allowed one absence without a final course grade reduction. After the allowed absence the final course grade will be reduced one-half level for each additional absence (e.g. A to A-).

Students are asked to contribute to a positive learning environment and to review the school's guidelines on academic integrity at:

http://www.upenn.edu/academicintegrity/ai_codeofacademicintegrity.html

Representation of someone else's work as your own, without proper attribution, is a serious breach of these guidelines. Cell phones are prohibited during class and are to be put away except during break time. Laptops are allowed for class notes only. Use will be discontinued if the policy is abused. Discussion leaders will be selected each week to lead the class in the assigned readings.

#AskMe

In order to insure an open and respectful learning environment, we invite you all to email us as to how you identify: name to use in class, preferred pronouns, anything that will allow us to create the best classroom environment possible to learn together. You can also use designations after your name id in Zoom, for example: Frank Matero (he/him/his)

For more information:

<https://www.design.upenn.edu/student-services/student-names-and-pronouns>

Format

Classes will be held in person and follow lecture and seminar format. Most topics will be introduced by an illustrated lecture followed by discussion of the lecture and readings. All students are expected to come prepared and on time. Please bring notes on the readings so we can have a meaningful conversation in the time available. If time and weather permit we will make several trips to nearby sites/projects as well as have invited lecturers to speak on case studies.

Products

Each student will be required to identify a topic of interest from a list of topics related to the course focus for further research. Individual work will be original research in the form of a written paper, visuals, and an in-class presentation. This will be delivered by each student in two stages: 1-A *Research Proposal* and 2-the final *Research Paper*.

Research Proposal (30%)

The goal of a research proposal is to present and justify the need to study a research problem related to a critical issue and to present the practical ways in which the proposed study should be conducted. The design elements and procedures for conducting the research are governed by standards within the predominant discipline in which the problem resides. Research proposals contain extensive literature reviews. They must provide persuasive evidence that a need exists for the proposed study. In addition to providing a rationale, a proposal describes detailed methodology for conducting the research consistent with requirements of the professional or academic field and a statement on anticipated outcomes and/or benefits derived from the study's completion.

A proposal should contain all the key elements involved in designing a completed research study, with sufficient information that allows readers to assess the validity and usefulness of your proposed study. The only elements missing from a research proposal are the findings of the study and your analysis of those results. In addition to the written proposal, a formal summary oral version will be presented in class at mid semester.

A typical research proposal includes the following components:

1. Introduction
2. Review of Literature
3. Methodology
4. Preliminary findings based on existing work
5. Discussion
6. References
7. Appendices (if needed)

Research Paper (50%)

Research topics are to be discussed and identified no later than the fourth class to allow sufficient time to research and prepare. In addition to the final written document, a formal summary illustrated version will be presented in class at the end of the semester.

Critical Dates

02/08 Initial Research Topic Selection
03/01 Final Research Proposals due
04/19 Draft Research Papers due
TBD Final Presentations
TBD Final Research Papers due with revisions

Class Schedule (All guest lectures provisional until confirmed)

01/18 **HISTORY/THEORY**

Introduction to the course: objectives, methodologies & structure

Lecture: What modern was: A historiography of conservation of the 'Recent Past'

01/25 **CONCRETE I**

Lecture: Introduction to reinforced concrete and its principle deterioration mechanisms

02/01 **CONCRETE II**

Lecture: How to detect problems? Lab and field NDT Techniques – Case Studies + Practical Session + Torino Esposizioni -Pier Luigi Nervi

02/08 **CONCRETE III**

Lecture: An overview on repair strategies and techniques for reinforced concrete - Case Studies

Guest Lecturer: Joshua Freedland, Bulleys – Experience from a contractor

02/15 **CONCRETE IV**

Lecture: The concrete surface

02/22 **LESSONS FROM THE FIELD**

Lecture:

- The Restoration of Tomba Brion of Carlo Scarpa by Prof. Paolo Faccio & Greta Bruschi -IUAV Venezia
- The Beira Station in Angola, Prof. Paulo Lourenco -Univeristy of Minho Portugal, SAHIC Program

03/01 **Midterm Presentations-Research Proposals due**

03/15 **CURTAIN WALL I**

Lecture: Introduction to the main deterioration mechanisms of curtain wall assembly-
Guest lecturer: Stephen Kelly

03/22 **CURTAIN WALL II**

Lecture: Repair and Conservation Strategies – Case Studies

03/29 **PREFAB & STONE VEENER I**

Lecture: Introduction to their main deterioration mechanisms and conservation challenges

04/05 **PREFAB & STONE VEENER II**

Lecture: Cases studies

04/12 **MODERN HERITAGE ICONS: CASE STUDIES**

Lecture: *A tale of two Taliesins*

Guest Lecturers: Gunny Harboe and Fred Prozillo

04/19 **THE ANONYMOUS AND THE EVERYDAY**

Lecture: Unloved and out of sight: the manufactured house

Draft Research Papers due

04/26 **CLIMATE CHANGE**

A discussion around the issue of climate change and how it is impacting the performance and durability of modern materials. The discussion will also touch base on the importance of Structural Health Monitoring. Intervention of Prof. Thomas Schumacher of Portland State University, Oregon

Readings

In preparation