Built Heritage Documentation I
DCP 6714C (3 credits)

Academic Term: Fall 2021
Class Periods: Wednesday, Period 3-5 (9:35 AM – 12:35 PM)
Classroom Location: ARCH 213
ZOOM: Link | **ZOOM Meeting ID**: 981 7643 9189 | **Passcode**: 650588

Instructor

Sujin Kim, Ph.D., Director of Envision Heritage
Assistant Scholar, UF Historic Preservation Program / School of Architecture
shyhiphop@ufl.edu | (512) 924-8995 cell
Office Hours: Wednesdays 1 PM - 4 PM & by appointment @ ARCH 146 / ZOOM

Images: Paredes-Dodge House (c. 1813), St. Augustine, FL. (Left) Historical photo, c. 1960s & (Right) 3D laser-scan section, 2017 class

Course Description

Do you want to explore preservation architects' workflows from the field to 3D digital?

Existing and historic structures are increasingly used as a sustainable approach. At the same time, many historic properties are being threatened by natural and human-made disasters and need to be recorded before the loss. Documentation is a product and process required by nearly every preservation and adaptive-use project. Documentation involves morphological, material, and temporal understanding and metrical, graphical, and narrative recording of the existing contexts. The class will examine a historic property in St. Augustine, Florida.

This course will introduce the 3D laser scanning technology and focus on using data from it, which simulates a common practice where architects and preservation specialists hire a surveyor and receive digital data (Laser-scan survey technique training is offered in Spring, Built Heritage Documentation II.). Students will analyze the project building using its full-scale, color 3D model (point cloud) and integrate findings into the workflows.

Students can seek different course objectives based on their interests and academic backgrounds. One group will focus on CAD training and architectural drawing production, while the other will concentrate on restoration and adaptive-use design workflows using the 3D data and various software. Both groups will conduct archival research and field condition assessment. This course will require several (at least two) field trips, active participation in discussions, and deliverables production.

Course Objectives
- Research and represent the project building.
- Learn and apply various methods of built heritage documentation.
- Undertake and produce narrative, metrical, and graphical representations, archival research, and field material condition assessment.
- Explore workflows integrating virtual and field experience (analytical and experiential).
- Participate in interdisciplinary and collaborative approaches to preservation projects.

Software to Learn and Use in Common
- Autodesk ReCap Pro
- Autodesk AutoCAD
- Bentley Pointools

Course Pre-Requisites / Co-Requisites
There are no pre-requisites or co-requisites for this course. The completion of *Built Heritage Documentation II* (DCP 6715, Spring) is not required.

Required Travel, Textbooks, Devices, and Software
- The course will require at least two field trips to St. Augustine, FL.
- Course material will be on e-learning/Canvas, including readings, lecture slides, assignments, announcements, and grades (https://elearning.ufl.edu/).
- A computer and a digital camera (any between a phone camera and DSLR) are required.
- Students can access the above-listed common software and others through educational licenses, trials, and open-source software. More instructions will be provided in class.

Materials and Supply Fees
Material and supply fees (M&S) are assessed for certain courses to offset the cost of materials or supply items consumed during instruction. A list of approved courses and fee information is available from the academic departments or the Schedule of Courses (UF-3.0374 Regulations of the University of Florida; Florida Statutes 1009.24). You can find more information at https://registrar.ufl.edu/soc/.

The total M&S for this class is $0.

Course Presentation and Requirements

Course contents are presented in PowerPoint presentations, class discussions, guest speakers, and training workshops, among others. Course requirements include active participation in class discussions and training and the completion of assignments and presentations on time.

A Note on Team Work

For team assignments, you are expected to abide by the Honor Code, plus conduct yourself in the following manner:

- Be a good team member.
  - Be on time. Be respectful. Be responsive with group communication.
- Participate and contribute equally in each assignment.
  - If there are problems with group dynamics or participation/effort levels, please talk to the instructor.

Course Policies

Evaluation of Grades
Grading Policy

Assignment	Total Points	Percentage of Final Grade
Individual / Team Assignments	100	30%
Work-in-Progress Presentations	100	30%
Final Presentation	100	30%
Participation	100	10%
		100%

Percent	Grade	Grade Points
93.0 - 100.0	A	4.00
90.0 - 92.9	A-	3.67
88.0 - 89.9	B+	3.33
83.0 – 87.9	B	3.00
80.0 - 82.9	B-	2.67
78.0 - 79.9	C+	2.33
73.0 – 77.9	C	2.00
70.0 - 72.9	C-	1.67
68.0 - 69.9	D+	1.33
58.0 - 67.9	D	1.00
55.0 - 57.9	D-	0.67
0 - 54.9	E	0.00

More information on UF grading policy may be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance in class and on field trips is mandatory. Role will (typically) be taken each class. Students will need to provide written excuse for missing class. More than three unexcused absences will result in the final grade being dropped one letter. You are expected to come to class on time, prepared, and ready to participate.

Requirements for class attendance and make-up assignments are consistent with university policies.

Excused absences must be consistent with university policies in the Graduate Catalog (http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance) and require appropriate documentation. Additional information can be found here: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Work Product
Instructor will keep copies of all participants' work products.

Classroom Climate
Equitable participation in this class requires the use of inclusive language, methods, and materials. Students are expected to use inclusive language in written and oral work, and to respect diversity in viewpoints expressed by others. Students are also encouraged to identify language, methods, and materials used in this course that do not contribute to an inclusive classroom climate.

Netiquette Communication Courtesy
All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions, and chats. More information can be found at: http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf

Class Demeanor
Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

UF Policies

University Honesty Policy
UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Students Requiring Accommodations
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their

accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see:
http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://gatorevals.aa.ufl.edu/. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://gatorevals.aa.ufl.edu/.

Campus Resources

Health and Wellness

In response to Covid-19, all course participants should consult the UF Health site for current policies and requirements that are in place, at this link. https://coronavirus.ufhealth.org

Schedule a Covid-19 test through ONE.UF:
https://coronavirus.ufhealth.org/screen-test-protect-2/frequently-asked-questions/covid-19-exposure-and-symptoms-who-do-i-call-if/

U Matter, We Care:
If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS) Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

Academic Resources

E-learning technical suppor*t*, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. https://www.crc.ufl.edu/.

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/.

Writing Studio, 302 Tigert Hall*,* 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/.

Student Complaints Campus*:*
https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints*:* http://www.distance.ufl.edu/student-complaint-process.

Course Schedule and Assignments

Schedule Note and Disclaimer
The syllabus and the details of the course schedule are subject to change as the need arises. All changes will be notified during class times and through email and eLearning announcements.

Week 1 (8/25) – Course Introduction
1) Overview of the course objectives, training approaches, deliverables, and presentations
2) Discussion on schedules
3) Introduction to computer software
4) Understanding of built heritage documentation
5) Review of previous course products and approaches

Individual meeting – Computer capacity check via ZOOM.

Week 2 (9/1) – Technical Training I
1) Group 1: AutoCAD beginner training; Introduction to architectural drawings
2) Group 2: Rhinoceros 3D basics training

Assignment – Complete the sample building drawings / model.

Week 3 (9/8) – Spatial Analysis through Virtual Experience
1) Exploration of the project building/site through the 360 virtual tour
2) Manipulation of 3D laser-scan point cloud (full-scale color model)
3) Training in Autodesk ReCap Pro's analysis tools
4) Analytical spatial sketches by hand (floor plans, cross sections, and site)

Assignment 1 (everyone) – Find missing data in the digital data (screen-capture)
Assignment 2
- Group 1: Using digital measurement, draw CAD floor plans with simple door symbols.
- Group 2: Explore and organize at least five different design strategies for restoring and refurbishing existing/historic buildings (form, material use, and spatial interconnection).

Week 4 (9/15) – Architectural Detail Analysis through Virtual Measurement
1) Training in Bentley Pointools
2) Discussion on building details (e.g., windows and doors) and documentation workflow
3) CAD drawing using the laser-scan data (sample detail)

Assignment 1 – Complete CAD detail drawing sets of the project building.
Assignment 2 – Prepare field survey plans (figure out missing information in the scan data).

Week 5 (9/22) – Fieldwork I (daylong trip)
1) Meeting at the project site in St. Augustine, FL
2) Guided tour to the building, its history, and current issues
3) Photographic survey for 1) detail drawings and 2) preliminary condition assessment
4) Measuring by hand
5) Visiting a local archive and collecting photocopies of historical records
(Note: The project building will be open until 2:30 PM.)

Submission – Photographs and notes.

Week 6 (9/29) – Work Week & Technical Training II
1) Group 1 & 2: Refining the detail drawings (submit them by the end of the day)
2) Group 2: Training in using the point cloud in Rhinoceros 3D, CloudCompare, and 3Ds Max (or alternative) (submit test renderings)

Assignment 1 (priority, everyone) – Prepare a presentation on the preliminary field diagnosis of material conditions. Develop a glossary of conditions using standard terminology.
Assignment 2 (everyone) – Annotate and organize resources from digital archives and the local archive in chronological order; Prepare for the class discussion on how the building/site has changed over time (form, spatial configuration, use, material, and flood/storm adaptation).

Week 7 (10/6) – Condition Assessment (Glance) & Building Evolution History I
1) Presentations
2) Participation in the discussions

Assignments
- Group 1: Create drawings, such as plans (priority), elevations (priority), and sections.
- Group 2: Propose a new addition (compatible with but differentiated from the existing structure) through modeling and rendering (existing-cond. point cloud + new model).
- Group 3: Lead historical research and writing (alteration & statement of significance).

Week 8 (10/13) – Fieldwork II (daylong trip)
1) Meeting at the project site in St. Augustine, FL
2) Field assessment of material conditions (photographic survey) – Everyone
3) Additional survey for measured drawings and design proposals – Group 1 & 2
4) Archive visit – Group 3

Submission – Photographs and notes.

Week 9 (10/20) – Work Week
1) Group 1: Full-draft drawings (plans and elevations are the priority.)
2) Group 2: Interior renovation proposal for adaptive use through modeling and rendering (modified point cloud + new component models)
3) Group 3: Draft evolution history (+ pictures with captions) and statement of significance

Submission – by Monday.

Week 10 (10/27) – Production Review & Building Evolution History II
1) Products critique
2) Historical research discussion, led by Group 3

Assignment – Prepare a presentation on the condition assessment using photographs collected from the field. Identify issues, possible causes, and treatments using references.

Week 11 (11/3) – Condition Assessment Presentation I – Identification
1) Presentation
2) Participation in the discussions
3) Developing condition/picture codes

Assignment – Create the mappings of the condition assessment using the base drawings, additional CAD layers, selected photographs, and codes.

Week 12 (11/10) – Condition Assessment Presentation II – Graphical Representation
1) Presentation
2) Participation in the discussions

Assignment – Refine the condition mapping (Group 1) and other group products.

Week 13 (11/17) – Production Review
Presentations and discussions

Submission – by Thursday.

Week 14 (11/24) – Thanksgiving
Holiday (no class)

Week 15 (12/1) – Review & Work Week
Deliverables and final presentation review

Week 16 (12/8) – Final Presentation

Submission – in class.

References and Resources

Historic England. *3D Laser Scanning for Heritage: Advice and Guidance on the Use of Laser Scanning in Archaeology and Architecture*. 3rd edition. February 8, 2018. https://historicengland.org.uk/images-books/publications/3d-laser-scanning-heritage/

ICOMOS. *Illustrated Glossary on Stone Deterioration Patterns*. 2008. https://www.icomos.org/publications/monuments_and_sites/15/pdf/Monuments_and_Sites_15_ISCS_Glossary_Stone.pdf

LeBlanc, François and Rand Eppich. "Documenting Our Past for the Future." *Conservation: The Getty Conservation Institute Newsletter*, Fall 2005. http://www.getty.edu/conservation/publications_resources/newsletters/20_3/feature.html

National Park Service. *A Glossary of Historic Masonry Deterioration Problems and Preservation Treatments*. 1984. https://www.nps.gov/tps/how-to-preserve/preservedocs/Historic-Masonry-Deterioration.pdf

National Park Service. "HABS Guidelines (downloadable PDFs)." https://www.nps.gov/hdp/standards/habsguidelines.htm