

Syllabus: Arc 570. Human Experience Design Methods for Architecture

Fall 2019

Code: ARC570 Section 002, Class 9103.

Instructor: Jonathan Enns

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Time: Friday, 9am - 11:50am

Room: E Classroom

Arch 570 Special Topics in Building Technology and Environment.

Human Experience Design Methods for Architecture

Human experience design (hx) methods in architecture provide frameworks for understanding problems, finding design opportunities, and building testable solutions for current & critical challenges in our built environment. The fundamental purpose of this course is to teach reusable innovation methods that will allow the rapid translation of ideas into reality through 'experiential prototyping' for user testing, resonance, and insight identification with target audiences in the span of a semester.

"Statistically, one of us will die in the next 10 years. Then, statistically, the other will remain in this big house for another 10 years, increasingly dependent on our children and the government. Then one day, the children will become impatient...and they'll find a more institutional setting for us where we'll have 'company, support, and attention', but it won't necessarily be what we want. And by that time, we'll be too weak and tired of burdening our children to object to whatever they come up with. And we'll live out our lives there, dependent and unhappy."

- Charles Durrett, *The Senior Cohousing Handbook: A Community Approach to Independent Living*, 2009

This semester we look deeply at the links between aging and architecture. We will read and understand references that frame this problem and analyze existing disciplinary ideas and solutions. We will generate a problem statement that identifies gaps for design. We will generate solutions and prototype them in a way that welcomes end user engagement. We will test these on who understand this problem intimately for impressions of feasibility and desirability. We will listen to what they say & present insights on a future architecture for aging.

0.0

Purpose, Products and Outcome of this Course

This course provides a methodological framework for generating insights, opportunities, and testable solutions for important problems in our built environment. This methodology adapts frameworks used in the design and innovation industry for the problems of architecture, and use by architecture students.

The product of this course is 'design research'. The work is research in the sense that an important question will be posed as the centre of each iteration of this course, and design in the sense that students create and build novel spatial concepts as solutions to this question. This is perhaps a familiar process with students who have taken studio based courses. What makes this different is that student hypothesis' will be tested for validity not through a jury process, but through real world resonance testing on recruits and people outside the discipline of architecture.

The critical research outcomes can be broken down further into categories: 1) **Case Studies & Horizon Scans**; State of the art searches into existing solutions and literature;; 2) **Generative Participatory Tools**; Prototypes that present flexible design possibilities and welcome end user engagement;; 3) **Final Insights and Analysis**; A final report that summarizes the problem, describes the solution and prototyping process,

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and unpacks concluding insights and opportunities around desirability, feasibility, and viability from learnings gained in testing.

The ultimate purpose of this course is to produce useful insights for the Architecture, Engineering, and Construction industries that ultimately lead to positive impacts for people (is it too much to hope for increased happiness, wellness, and joy?). In doing so, finally, it is hoped that much of this work can be prepared for publication and disseminated through papers, books, websites, exhibitions and continued research.

1.0

The problem of aging

See lecture 1

2.0

Learning Outcomes

Students should be familiar with the following categories by the end of this course that will serve them as a framework for further independent research and design in other classes and in practice.

2.1 Foundational Data & Research Analysis

By the end of the semester students will be able to identify design opportunities in research literature and behavioral debriefs, and frame opportunities in a way that clearly leads to impactful change. Skills:

- Literature and data review & summary: methods for understanding and summarizing findings.
- Opportunity area identification & development: methods for identifying opportunities for innovation.
- Insight statement creation: Methods for articulating clear and actionable design proposals.

2.2 Solution Envisioning & Prototyping

Students will become familiar with industry terminology and techniques for envisioning new design solutions & methodologies like journey mapping for understanding how solutions intersect with the lives of users. Skills:

- Envisioning and storyboarding: Representational devices that describe your design solution in situ.
- Journey Mapping: Representational device for understand of people's lives and where pain points and opportunities arise.
- Experiential Prototyping: Tactile methods of designing and testing proposed solutions

2.3 The Pitch

Students will develop solutions that will be 'pitched' to a group of expert jurors in the final weeks of the course. These jurors will evaluate student proposals for their impact on real world conditions - and will attempt to comment on impressions of desirability and feasibility.

3.0

Schedule, Assignments, Expectations

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	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50	9:00 - 11:50
	1	2	3	4	5	6	7	8	9	10	11	12	13
	6-Sep	13-Sep	20-Sep	27-Sep	4-Oct	11-Oct	18-Oct	25-Oct	1-Nov	8-Nov	15-Nov	22-Nov	29-Nov
	F	F	F	F	F	F	F	F	F	F	F	F	F
	Explore				Generate						Evaluate		
Explore													
A1 Handout	█												
Review literature on aging		█											
Resident Experience Journey maps based on personal investigation / exploration		█											
Case study: Architecture analysis (graphic)													
Case study: Pain points & Problem statement				█									
Presentation & output				█									
Generate													
Opportunity Statements (for dev of your type)					█								
References of prior work that supports concept (ex diy projects)						█							
Design concept 1 (drawings) & Review							█						
Design concept Revision								█					
Generative tool design									█				
Tool precedents										█			
Physical Stimuli											█		
Beta test & practice pitch												█	
Evaluate													
Product Pitch with expert review panel												█	
Findings, insights, opportunities												█	
Next Steps													█
Invisioning													█
Documentation													█
Final presentations													█

The schedule is a live document and is subject to change pending confirmation by the class. The live document can be accessed here:

<https://docs.google.com/spreadsheets/d/1GAw0TE439bUhkOr5LhpmkI0IzZOT8NB0bhocD8y3C50/edit?usp=sharing>

Projects

https://drive.google.com/open?id=1E4DpZhRLuLL3sBrChSS4oRdO1Wt_g35WpIpf9BRcxqh8

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Weekly Deliverables

<p>W1 Sep 6</p>	<p>Course delivery</p> <p>Lecture</p> <p>Personas Journey Maps Analysis Interviews Ethics</p> <p>A1 Handout Typologies and adaptability</p> <p>Team Formation Precedent Sign-up Class Exercise</p>	<p>Participation</p> <p>Groups of two. Partner a, interview partner b. Generate a persona for partner b.</p> <p>Sketch this as a 'facebook profile' Include likes, dislikes, tendencies, aspirations</p> <p>Partner b interview partner a. Generate a journey map of their morning routine (bed - school).</p> <p>Sketch this as a comic strip (moments in time) or as a journey line in a plan.</p> <p>Combine persona and journey map. Present.</p>	<p>To read for next week</p> <p>53 Literature Reviews 85 Territory Maps 11 Case Studies</p> <p>This Week:</p> <p>63 Personas 73 Scenarios 95 User Journey Maps 82 Storyboards</p> <hr/> <p>To do for class next week (E2) In groups of 3</p> <p>Identify someone to speak to that is >65. Ask some non-systematic questions. Explore the issue of spaces for aging. Should take 20 - 30 minutes.</p> <p>1) Craft a persona for this person that you think would represent them - use this persona rather than their identity in sharing to the class.</p> <p>2) Ask them about how their home helps or hinders their daily routine...Distill an 'average day' into a journey map presented as a line with a series of nodes (representing events on this line) drawn on a plan sketch of home (can be approximate). Include high and low points. Points on this line should become keyframes to a comic book styled 'storyboard'.</p> <p>3) Ask them to help you sketch the ideal home for aging in place. What features would it have. What things would it avoid?</p> <p>Hand sketches are fine for all deliverables.</p> <p>Upload PDF/Scans to learn. c/inc*</p>
<p>W2 Sep 13</p>	<p>Course delivery</p> <p>Lecture Literature Review Graphic Analysis Competitive Audits Gaps Service Blueprints Pain points Maps & analysis tools Problem, Insight, Opportunity statements. HMW Statements. Design principles</p> <p>Exercise</p>	<p>Participation</p> <p>E2 Presentations (part i, ii)</p> <p>In your groups, craft a problem statement, insight statement, and opportunity statement for your typology.</p> <p>Articulate the goals of your typology as a 'how might we?' statement.</p>	<p>Read for next week:</p> <p>TBD</p> <hr/> <p>For next week: digital upload (E3): In your team:</p> <p>i) assemble a one paragraph description of your assigned typology, and research a list of built examples. These may be conceptual and/or built projects.</p> <p>ii) Outline a set of 'design principles' for your typology - these should define which projects are selected as references.</p> <p>iii) Select what is, in your groups opinion, the most successful of these references and perform a graphic analysis that includes redrawing a clear plan, section, and elevation. Scale TBD.</p>

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			Upload PDF/Scans to learn. c/inc*
W3 Sep 20	Cancelled. J Away. Reschedule this class to mid-week during assignment 2.	Participation Hand in E3 on learn	<p>For next week (A1):</p> <p>Combine E2 and E3 by presenting a storyboard and journey map of a hypothetical resident in your precedent building. Make sure all high and low points are indicated in the experience of your precedent home. List the reasons why.</p> <p>Describe typology and define design principles without lingo.</p> <p>Presentation to class</p>
W4 Sep 27	Course delivery Designing prototypes 1	Participation Presentation of your A1 project to the class. Projected. / 10 20% of grade Upload PDF/Scans to learn before midnight the night before.	<p>Read for next week:</p> <p>For next week Opportunity/gap Statements 5 Design Concepts pp that innovate on typology Reference Innovation Projects c/inc*</p>
W5 Oct 4	Course delivery Lecture Stimuli Critical Prototyping Quality expectations Case study U Designing prototypes 2	Participation Pin up / share out of opportunity statement and design concepts. Group critique session. Group mapping session.	<p>Read for next week:</p> <p>TBD</p> <p>For next week 3 refined design concepts Convivial tool references c/inc*</p>
W6 Oct 11	Course delivery Lecture Resonance Testing WOZ Convivial Tools Generative prototyping Case study Testkit Designing prototypes 3	Participation Pin up/ share out of refined concepts and convivial references. Group critique session. Group mapping session.	
W7 Oct 11	Reading Week	-	<p>Read for next week:</p> <p>TBD</p> <p>For next week</p>

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			<p>Complete Research Ethics TCPIP</p> <p>Refined Concepts Generative tool c/inc*</p>
W8 Oct 25	<p>Course delivery</p> <p>Lecture Case study burr Case study Kit Designing prototypes 4</p>	<p>Participation</p> <p>Pin up/ share out of refined concepts and convivial references.</p> <p>Toolkit prototyping on paper. As teams test a run through with toolkit.</p>	<p>Read for next week:</p> <p>TBD</p>
			<p>For next week Build Toolkit c/inc*</p>
W9 Nov 1	<p>Course delivery</p> <p>Lecture Beta testing Designing prototypes 5</p>	<p>Participation</p> <p>Finalized toolkits</p>	<p>Read for next week:</p> <p>TBD</p>
			<p>For next week Build Toolkit c/inc*</p>
W10 Nov 8	<p>Course delivery</p> <p>Lecture Analysis methods</p>	<p>Participation</p> <p>Beta test</p>	<p>Read for next week:</p> <p>TBD</p>
			<p>For next week Finalize Deck and Toolkit c/inc*</p>
W11 Nov 15	<p>Design Pitch Day</p>	<p>Participation</p> <p>Presentation of your slide deck (with visuals) and your generative prototypes to expert jury. You will have access to a TV or projector. You will need to make space and design for engagement and manipulation of your prototypes.</p> <p>/ 10 20% of grade Hand in PDF on learn before midnight the night before.</p>	<p>Read for next week:</p> <p>TBD</p>
			<p>For next week Findings, insights and opportunities resulting from design pitch 'what we heard'</p>
W12 Nov 22	<p>Course delivery</p> <p>Lecture Formatting</p>	<p>Participation</p> <p>Pinup and review of Findings, insights, opportunities</p> <p>Pinup and review of next steps and embodiment V2</p>	<p>Read for next week:</p> <p>TBD</p>
			<p>For next week Envisioning of V2 designs Envisioning of V2 generative tools Final layout c/inc*</p>

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W13 Nov 29	Course delivery Lecture Design for scalability Innovation spiral Case study	Participation Final share out of envisioned V2 and generative tools. Final share out of findings and opportunities. Projected. Critique of concepts and layout	- / 20 40% of grade Hand in PDF on learn. Final project will be due during exams at a date agreed upon by class.
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c/inc = complete / incomplete

* participation

- A1 20%
- A2 20%
- A3 40%
- *Participation 20%

**4.0
Grading Procedures**

Attendance and timeliness for each class is mandatory. Late arrivals will be accounted for in participation grade. Assignments will be graded as discussed above. As we are moving through content quickly, absence for more than 2 classes and/or for the final presentation will result in failure. Grading deductions for late work will follow the following UWSA protocol:

Assignments that are handed in late will receive an initial penalty of 20% on the first calendar day late and a 5% penalty per calendar day thereafter. After 5 calendar days, the assignment will receive a 0%. Only in the case of a justified medical or personal reason will these penalties be waived, and only if these have been officially submitted to the Undergraduate Student Services Co-Ordinator and accepted by the Undergraduate Office.

**5.0
Course Policies**

Your work belongs to you, but we hope you agree to allow your work to be published alongside future research & student course work in exhibitions, publications, books, papers, and on www.humanics.io among others. Authorship will be attributed to you and your group members in all cases. Please send a note to your course instructor if you would like to omit individual work.

**6.0
UW Policies:**

Academic integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check [the Office of Academic Integrity](#) for more information.]

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70. Student Petitions and Grievances, Section 4](#). When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.

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Discipline: A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. [Check [the Office of Academic Integrity](#) for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](#). For typical penalties, check [Guidelines for the Assessment of Penalties](#).

Appeals: A decision made or penalty imposed under [Policy 70, Student Petitions and Grievances](#) (other than a petition) or [Policy 71, Student Discipline](#) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72, Student Appeals](#).

Note for students with disabilities: [AccessAbility Services](#), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with [AccessAbility Services](#) at the beginning of each academic term.

Turnitin.com and alternatives: Plagiarism detection software (Turnitin) will be used to screen assignments in this course. This is being done to verify that use of all material and sources in assignments is documented. In the first week of the term, details will be provided about the arrangements for the use of Turnitin and alternatives in this course.

Note: students must be given a reasonable option if they do not want to have their assignment screened by Turnitin. See [Academic Integrity - Guidelines for Instructors](#) for more information.

7.0

Bibliography & Further Reading (Bold type cited in reading list above)

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Lilly Irani, "Difference and Dependence among Digital Workers: The Case of Amazon Mechanical Turk," South Atlantic Quarterly, 2015

Mary L. Gray and Siddharth Suri, Ghost Work: How to Stop Silicon Valley from Building a New Global Underclass

Daniel Solove, Nothing to Hide: The False Tradeoff between Privacy and Security

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Aging

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