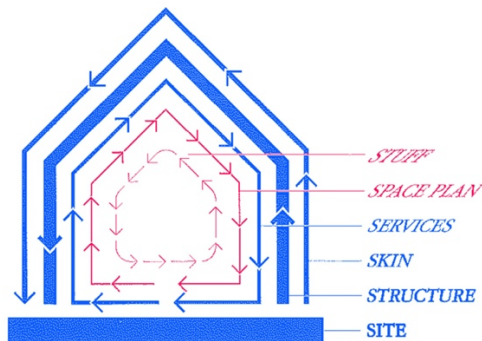


Arc393\_F21

Open Architecture Studio:

Re :New

***“Almost no buildings adapt well. They’re designed not to adapt; also budgeted and financed not to, constructed not to, administered not to, maintained not to, regulated and taxed not to, even remodeled not to. But all buildings (except monuments) adapt anyway, however poorly, because the usages in and around them are changing constantly.” – Stewart Brand <sup>1</sup>***



**SHEARING LAYERS OF CHANGE.** Because of the different rates of change of its components, a building is always tearing itself apart.

2

*We acknowledge that the School of Architecture is located on the traditional territory of the Neutral, Anishinaabeg and Haudenosaunee peoples. The University is situated on the Haldimand Tract, the land promised to the Six Nations that includes 10 kilometres on each side of the Grand River. (see references here: <https://uwaterloo.ca/engineering/about/territorial-acknowledgement>)*

## 0.0\_Approach

This course is part of a series of studios offered at the School of Architecture since 2018 titled 'The Open Architecture Studio'. Central to each studio is an approach to problem solving that: i) places the occupant at the centre of the problem framing process, ii) aims to democratize processes through tools or methods for co-creation, iii) privileges scalable systems that can stretch across multiple 'sites', iv) attempts to offer graphic/metrical measures for the communication of design value.

## 1.0\_Problem

Regarding 'the new': Typical to the contemporary architect's training is a focus on the new and novel as the object of creation. This focus on individual genius and the singular act of design not only misrepresents the true realities of practice (in which solutions arise as a network of voices), it also undertrains our ability to co-create within our existing built environment – a reality which is essential to the future of our practice as we move towards net 0 building.

Retrofit architecture is likely to be the majority of work in your careers ahead, and it needs to be studied as a territory of meaningful and beautiful potential for architecture, and our ecosystem.

This said, how do we create retrofit solutions that apply broadly, and might impact our built environment beyond the source site? This semester we will attempt apply a 'toolkit' approach to retrofitting by looking at common challenges and proposing systems for adaptation that apply across multiple sites. You will be co-designing with existing architecture. You will be creating 'kits' to enable end user change. You will be crafting adaptive solutions to minimize the unneeded expenditure of carbon.

## 2.0\_Semester Structure

Our semester will be broken down into two projects, each with an analysis and design portion.

### 1) Usability Study (red in Brand's shearing layer diagram above)

#### 1a. Home Analysis

It's essential that designers have 1:1 knowledge and contact with the 'problem'. 1A will be a detailed documentation and pattern mapping of your own space that defines: i) the metrics of space, ii) the metrics of synchronic occupation, iii) the metrics of diachronic use.

#### 1b. Home Adaptation

Using an off the shelf kit of parts (assigned by studio), configure a response that will meaningfully reconfigure the space documented in 1 to address a defined problem statement (by author). Use the graphics & metrics defined in 1 to compare and 'measure' existing and intended impact on functions of synchronic and diachronic use.

### 2) Renewal Kit (blue in the shearing layer diagram above)

#### 2a. Precedent Analysis

Analysis and study of a series of existing retrofit projects

#### 2b. Kit design

Design a renewal 'kit' that can be applied to alleviate common pressures of adaptation in one of a set of common building types: suburban home, post-war tower, urban condo.

The fields of Architecture & Human Centred Design jointly discussed in this course will be represented in two course texts: Stewart Brand's 'How buildings Learn' and Don Norman's 'The Design of Everyday Things'. Part of class sessions will be dedicated to the discussion of portions of these texts.

## 3.0\_Learning Outcomes

Students should be familiar with the following by the end of this course. These skills will serve them in further independent research and design in other classes and in practice:

### 3.1 Building Knowledge

Knowledge of successful technologies for building adaptation

Knowledge with how buildings change and why

Understanding of long-term social, economic, and climactic impacts of buildings

### 3.2 Metrical Thinking

Knowledge of user centred metrics that impact occupation and use  
Ability to generate graphic argumentation for synchronic and diachronic occupation and use  
Ability to convincingly compare before /after patterns of use

### 3.3 Design proposal skills

Ability to identify specific vs. generic problems with a given building typology  
Ability to apply relevant metrical analysis' using graphic analysis, mapping, orthographic projection  
Ability to propose human impacts of adaptation using graphic storytelling and journey maps  
Ability to generate design iterations and apply logics of carbon accounting in the selection and development of alternatives.

## 4.0\_Outline

### 4.1 Handouts

At the conclusion of each project review the next project handout will be presented and made available on Learn. Please review this document prior to the following class in which additional context will be given.

### 4.2 Reviews

Reviews will occur in Miro & Teams (concurrent sessions). Peers will follow the presenting group in Miro with audio, text & video communication in Teams. **Presenting teams should screen share their Miro board through Teams.**

### 4.3 Stand Ups

At frequent intervals, students will present progress work to the class from Miro. Including up to date work & showing continual development in stand-ups will contribute to participation.

### 4.4 1:1s

Individual desk crits held between the course instructor and a group and or single student. Use Miro for visual communication and teams for audio/text communication concurrently.

### 4.5 Guest Project Discussions

External guests and subject matter experts will be invited to speak to the class on topics and work related to the project at hand. It is expected all will attend and contribute to question and answer sessions which are seen as a focus area in these presentations.

### 4.6 Discussion Posts

On a semi-weekly basis, a post with description will be sent in a channel on Teams (readings, videos, links). For each post you are expected to leave a single comment as a response to the reading once you have finished reading/viewing and before the discussion date. You will be asked to attend the discussion period (during class time) and may be asked to voice your comment (but are always encouraged to do so!).

### 4.7 Peer/Self evals

At the conclusion of the first to group projects students are asked to complete a peer / self-evaluation that will be due to learn. Failure to complete this evaluation will result in a 5% reduction in participation grade.

### 4.8 Even / Odd

You will be divided into even and odd groups for the final project to allow alternating crit days. During project 2b you will have crits either Monday or Thursday but not both.

## 5.0\_Evaluation

Evaluation in this course is project based, with 15% of the final grade assigned for professionalism, in camera, and written participation, effective group work & punctuality. Course attendance will be taken via saved Teams & Miro attendance.

Schedule, Assignments, Expectations

P1a – Home Analysis (Individual)	2w	15%
P1b – Home Adaptation (Pairs)	2w	15%
P2a – Precedent Study	2w	15%
P2b – Renewal Kit (Pairs or Individual)	6w	40%
Participation, teamwork & professionalism	-	15%

## 6.0\_Grading Procedures

Attendance and timeliness for each class is mandatory. Attendance using participant logs from Teams will be reviewed prior to assigning participation grades. Assignments will be graded as indicated above. As we are moving through content quickly, absence for more than 2 classes without a doctor's note and/or for the final presentation will result in course 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.

In conjunction with **attendance logs** and **peer evaluation forms**, participation and professionalism grades will be assigned as follows:

Example Grade	
6/10	Has missed a synchronous activity and frequently arrives 5 minutes past start. Infrequently contributes to voluntary course discussion. Does not post most recent work and does not maintain an organized Miro board. Stand ups fail to present recent work. Often without video.
7/10*	Occasionally arrives within 5 minutes of start to a synchronous activity. Contributes occasionally to voluntary course discussion. Keeps Miro board relatively organized and accessible to an unfamiliar viewer. Stand ups present recent work well but miss certain developments and lack major development from week to week. Sometimes without video.
8/10	Attends all events & is always present at start time. Works together well with team. Contributes actively to voluntary course discussion. Is considered a discussion leader. Keeps Miro board up to date and precisely organized. Presented work is ordered logically to an unfamiliar viewer. Stand ups present latest work neatly and display continual development. Always has video on.

\* It is critical to note: A "typical / normal" participation grade is 7.5, and it is essential to intentionally 'try to engage' to rank beyond this.

## 7.0\_Course Deliverables

Deliverables will be due at 11:59PM the night before class to Learn as vector format compiled PDF files (300dpi where asked) and to MIRO as reduced resolution (150 dpi).jpeg versions. All files should be named as follows: Last.First\_ProjectX\_number *Example: Enns.Jonathan\_P2\_3*. In any version discrepancy – the most recent upload to Learn will be considered official for the purposes of grading.

## 8.0\_Course Readings

Students are recommended to buy two reasonably priced course texts. I will assign a series of recommended readings from these.

- *Brand, S. (1994). How buildings learn: What happens after they're built. New York, NY: Viking.*  
\*Available on Amazon, Amazon Kindle, and in major bookstores. Example:  
[https://www.amazon.ca/How-Buildings-Learn-Happens-Theyre/dp/0140139966/ref=sr\\_1\\_1?dchild=1&keywords=how+buildings+learn&qid=1599617306&sr=8-1](https://www.amazon.ca/How-Buildings-Learn-Happens-Theyre/dp/0140139966/ref=sr_1_1?dchild=1&keywords=how+buildings+learn&qid=1599617306&sr=8-1)
- *Norman, D. A. (2013). The design of everyday things. New York: Basic Books.*  
\*Available on Amazon, Amazon Kindle, and in major bookstores.(I do not recommend buying audio version). Example:  
[https://www.amazon.ca/Design-Everyday-Things-Revised-Expanded/dp/0465050654/ref=sr\\_1\\_1?dchild=1&keywords=the+design+of+everyday+things&qid=1599617340&sr=8-1](https://www.amazon.ca/Design-Everyday-Things-Revised-Expanded/dp/0465050654/ref=sr_1_1?dchild=1&keywords=the+design+of+everyday+things&qid=1599617340&sr=8-1)

## 9.0\_Bibliography & Further Reading

The following readings are highly recommended and will greatly benefit the student designer in this course but are, due to time and scope of this course, not required.

Ratti, C., & Claudel, M. (2015). Open source architecture.  
De, B. A. (2014). The architecture of happiness.  
Bryson, B. (2016). At home: A short history of private life. London: Black Swan.  
Pollan, M. (2013). A place of my own: The education of an amateur builder. New York: Random House.  
[https://issuu.com/adampeterroberts/docs/the\\_architect\\_and\\_self-build\\_housing](https://issuu.com/adampeterroberts/docs/the_architect_and_self-build_housing)

## 10.0\_Course Time Zone

All dates and times communicated in the document are expressed in Eastern Time (Local time in Waterloo Ontario, Canada). From September 8 – October 24 2020 times are indicated in Eastern Daylight Time (EDT, UTC-4:00) and from October 25 – December 31 2020, times are indicated in Eastern Standard Time (EST, UTC-5:00)

## 11.0\_Fall 2021 COVID-19 Special Statement

Given the continuously evolving situation around COVID-19, students are to refer to the University of Waterloo's developing information resource page (<https://uwaterloo.ca/coronavirus/>) for up-to-date information on academic updates, health services, important dates, co-op, accommodation rules and other university level responses to COVID-19.

## 12.0\_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.

**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: Accessibility 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 Accessibility 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.

Students seeking accommodations due to COVID-19, are to follow Covid-19-related accommodations as outlined by the university here: (<https://uwaterloo.ca/coronavirus/academic-information#accommodations>).

## 13.0\_Equity, Diversity and Inclusion Commitment

At the School of Architecture, we are committed to foster and support equity, diversity and inclusion. We recognize however, that discrimination does occur, sometimes through an isolated act, but also through practices and policies that must be changed. If you experience discrimination, micro-aggression, or other forms of racism, sexism, discrimination against LGBTQ2S+, or disability, there are different pathways to report them:

A) If you feel comfortable bringing this up directly with the faculty, staff or student who has said or done something offensive, we invite you, or a friend, to speak directly with this

person. People make mistakes and dealing them directly in the present may be the most effective means of addressing the issue.

B) you can reach out to either the undergraduate (Nicole Guenther or Maya Przybylski), graduate office (Tina Davidson, John McMinn), or director (Anne Bordeleau). If you contact any of these people in confidence, they are bound to preserve your anonymity and follow up on your report.

C) You may also choose to report centrally to the Equity Office. The Equity Office can be reached by emailing [equity@uwaterloo.ca](mailto:equity@uwaterloo.ca). More information on the functions and services of the equity office can be found here: <https://uwaterloo.ca/human-rights-equity-inclusion/about/equity-office>.

#### **14.0\_Student Notice of Recording**

The course's official Notice of Recording document is found on the course's LEARN site. This document outlines shared responsibilities for instructors and students around issues of privacy and security. Each student is responsible for reviewing this document.

#### **15.0\_Mental Health Support**

All of us need a support system. We encourage you to seek out mental health supports when they are needed. Please reach out to Campus Wellness (<https://uwaterloo.ca/campus-wellness/>) and Counselling Services (<https://uwaterloo.ca/campus-wellness/counselling-services>).

We understand that these circumstances can be troubling, and you may need to speak with someone for emotional support. Good2Talk (<https://good2talk.ca/>) is a post-secondary student helpline based in Ontario, Canada that is available to all students.

**Revision Date: September 6, 2021**