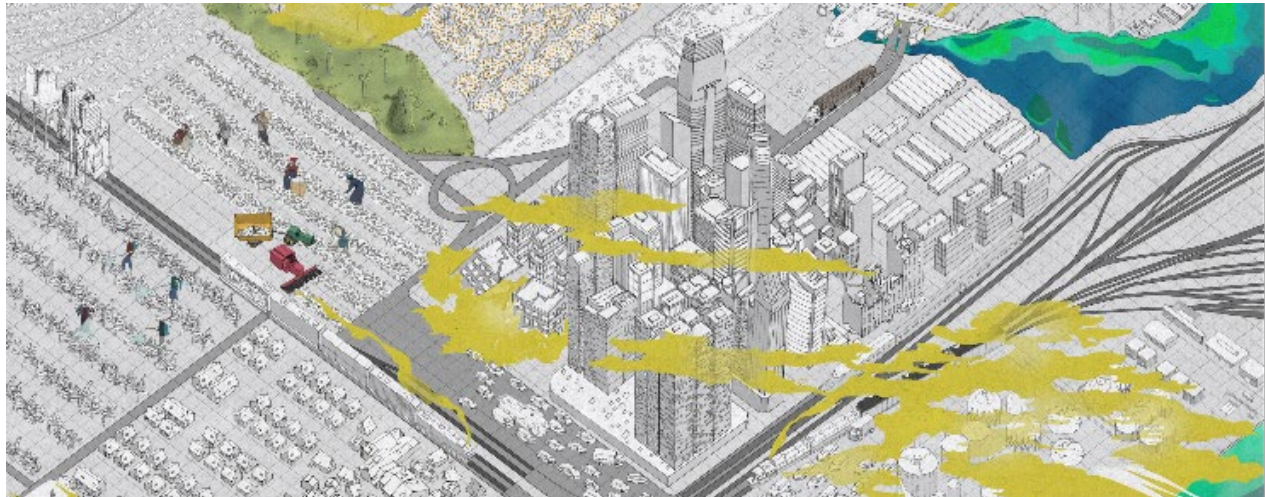


DRAWING AS RESEARCH

Course Syllabus



Above: [Feral Atlas: Capital](#)

TERRITORIAL ACKNOWLEDGMENT

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. This is where traditional relationships of Indigenous peoples to the land continue to be disturbed, and sometimes severed, through colonial policies and broken treaties. To learn more about the history of the Haldimand Tract and Haudenosaunee land rights, please visit [Protect the Tract](#).

FACULTY FACILITATOR

Fiona Lim Tung (she/her)

flimtung@uwaterloo.ca

The first iteration of this course was co-developed with Julia Nakanishi, and many aspects of Drawing as Research are indebted to her many thoughtful contributions.

INTRODUCTION | QUESTIONS

“We encourage architects to use their skill at drawing to embrace “arts of noticing”. In situ observation and heterogeneous modes of analysis offer ways of becoming attentive to lively, messy more-than-human activities. Practices that bring together knowledge, materials, and people in collaboration across disciplines can attempt to build dialogue across many forms of difference.”

-Lili Carr, Feifei Zhou, Anna Tsing, “*Architects Draw the Anthropocene*”

Anthropologist Anna Tsing states in her essay, *On Nonscalability*, “there is something disturbingly beautiful about precision, even when we know it fails us.” She argues that our current understanding of scale results from modern “precision-design,” such as industrialized processes and the computer. “Scalability” she writes, “by design, covers and attempts to block the transformative diversity of social relations. It is the ability to expand without distorting the framework.”¹

Architectural design and architectural research are practices that often claim to engage in a multitude of social relations. We are prompted to think spatially in the context of economic, political, cultural, temporal, and ecological forces, and we summarize these conditions through a consistent framework and acts of precision: scaled architectural drawings. In this course **you will be encouraged to reflect on and be critical in your precision, to challenge conventions, to embrace the complexities of your research subject, and to see the work as an ongoing, open-ended process of making, learning, and observation.** As described by Laurent Stalder and Andreas Kalpakci in *A Drawing Is Not a Plan*, “a drawing is neither at the beginning nor the end of a process, but always in between.”²

Despite their precision, architectural drawings are a flexible framework for understanding and communicating complex relationships. This course will introduce students to a range of visual research methodologies and approaches to explore the role of drawing as a tool for research and spatial observation. We will look at the documentation and analysis of a range of conditions using the conventions of architectural representation and challenging them through experimental extensions of drawing types. This course will prepare students to develop methodologies and skills, but also question the lens through which we read and interpret visual information. We will ask ourselves: **When we conduct research, what worldviews shape the way we look for information? Is that worldview shaped by Western knowledge, with embedded colonial agendas? Can drawings be scientific? What power dynamics exist in certain methods, knowledge, and aesthetics?**

Central to our discussions will be how drawings have limited and served architects and designers in the past, and how we can expand our understanding and empathy through our methods. Drawings in architectural practice, particularly in Canada, have a long history of being instruments of colonization, oppression, and erasure.³ As architecture students, educators, and practitioners today, we are not detached from this context. We will analyze different drawing techniques (plan, section, oblique, isometric, photography, collage, etc.) to highlight the different types of power they are associated with. While maintaining awareness of the larger context of architectural drawings, **we will discuss their ability to organize research, develop an argument, and communicate to different stakeholders.** Through discussion and application, we will develop graphic tools and techniques for research investigations.

The course will begin with discussions around what it means to conduct research, and we will read a variety of theoretical texts that will serve as departure points for these conversations. The course resources are intentionally cross-disciplinary, and we will discuss perspectives from other disciplines, including anthropology, ecology, literature, and the visual arts.

We will then move into discussions about the implications of visual research, the ethics behind the tools that exist in producing it (GIS, satellite imagery, cartographic projections, other forms of data), visualizing datasets, site conditions, and stakeholders, as well as critically evaluating the act of researching places at a distance. This approach will also require a critical evaluation of the references that underpin the work, and the lens through which the drawings are produced. **The larger questions of the beginning weeks of the course should structure the ways in which you approach your own research. We will use these prompts when sharing, reviewing, and providing constructive feedback as a class throughout the production of your individual research in the latter part of the course.**

¹ Anna Lowenhaupt Tsing, “On Nonscalability,” *Common Knowledge* 25, no. 1–3 (2019): 143–62, <https://doi.org/10.1215/0961754X-7299210>.

² Laurent Stalder and Andreas Kalpakci, “A Drawing Is Not a Plan,” in *Architectural Ethnography* (Tokyo, Japan: Toru Kato, 2018), 15–17.

³ Pierre Bélanger, Christopher Alton, and Nina-Marie Lister, “Decolonization of Planning,” in *Extraction Empire: 2017-1217* (Boston, USA: MIT Press, 2018), 438–519.

COURSE OBJECTIVES

The successful completion of this course requires a rigorous exploration of the following:

1. the design and implementation of a clear and effective visual research methodology;
2. the visual formation of a position on the histories, political context, ecologies, communities and built environments that shape site;
3. an exploration of innovative extensions of drawing conventions to allow for a deep unpacking of the research subject;
4. an understanding of and care for drawing as a craft; and
5. conceptual, visual, and critical skills and awareness.

COURSE STRUCTURE

This course is broadly divided into three sections, each addressing a range of tools and techniques of research and representation:

1. research methods and knowledge production;
2. representational methods and ethics; and
3. the application of technique and theory, in both existing work and in students' own research.

Techniques will be developed through a series of lectures, seminar discussions, and a term drawing project coordinated with students' studio projects, thesis work, and/or research interests.

EVALUATION

This course employs a grading method called "specification grading." With specification grading, **students are given agency to decide their final grade based on personal circumstances and priorities, then participate accordingly.** The chart below lists the grades possible in this course and the "pathways" of assessments required to achieve each grade.

This grading method shifts the value from *performance to learning*. Each assessment is marked pass/fail where a pass requires that the work display competency in meeting the course's learning objectives (which is roughly the equivalent of a B+ on the undergraduate grading scale). These should not be considered completion grades. A comprehensive description of these deliverables (including evaluation criteria, submission procedures, etc.) will be shared with each assignment. Where pathways are attempted but not sufficiently achieved, partial grades may be given. Exceptional work may be rewarded above the maximum threshold.

Assessment "Pathways":

	60	74	78	84	87
Attendance / Participation (incl. Drawing Show and Tell)	X	X	X	X	X
Seminar Presentation		X		X	X
Seminar Response / Moderation		X			X
Drawings (Term Project)			X	X	X
Project Prospectus / Forensic Unpacking			X	X	X

FAIR CONTINGENCIES AND COMPASSIONATE CONSIDERATION

To provide contingency for unforeseen circumstances, the facilitator may modify course topics and/or assessments and/or weight and/or deadlines following discussion with students. In the event of further challenges, the facilitators will work with the School to find reasonable and fair solutions that respect the rights and workloads of students, staff, and faculty.

If you are facing challenges that are affecting more than one course, please contact the undergraduate or graduate office. They will review your case and coordinate a reasonable and fair plan in consultation with appropriate others (e.g., Instructors, Department Undergraduate Studies Committee, Chair, AccessAbility Services, Engineering Counselling services, Registrar's Office).

LATE WORK

Students seeking accommodations due to COVID-19, are to follow COVID-19-related accommodations as outlined by the university [here](#).

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](#) for up-to-date information on academic updates, health services, important dates, co-op, accommodation rules and other university level responses to COVID-19.

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](#) and [Counselling Services](#).

We understand that these circumstances can be troubling, and you may need to speak with someone for emotional support. [Good2Talk](#) is a post-secondary student helpline based in Ontario, Canada that is available to all students.

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 office (Nicole Guenther or Maya Przybylski), graduate office (Tina Davidson or Lola Sheppard), 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](#). More information on the functions and services of the Equity Office can be found [here](#).

ACADEMIC INTEGRITY, GRIEVANCE, DISCIPLINE, APPEALS, AND NOTE FOR STUDENTS WITH DISABILITIES:

Academic integrity: To maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility.

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. 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 1401, 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.

SCHEDULE

Week 1 – May 2: Introduction and Drawing as Research

- *Course Overview:*
 - +Learning objectives, schedule, and exercise descriptions
- *Topic Overview:*
 - +What it means to do research as a designer: Ways of Seeing/Reading/Knowing
 - +Bias
 - +How to do research as a designer: Research Methodology
- * **Seminar Presentations Assigned**
- * **Show and Tell Assigned**

Week 2 – May 9: Research Methodology

- *Topic Overview:*
 - +Ethics and Politics of Mapping and Data
 - +Crowdsourcing, visual and data sourcing, remote ethnography
 - +New/old Technologies
 - +Drawing Types
 - +Who's the Audience?
- * **Show and Tell Due**
- *Due:*
 - ***5-10 minute presentation on favourite "drawing as research"**

Week 3 – May 16: Getting Started

- *Topic Overview:*
 - +Seminar presentations x 3: literature review – research methods
- * **Term Project / Project Prospectus Assigned**

Week X – May 23: Victoria Day

Week 4 – May 30: Translations from quantitative/qualitative to drawing

- *Topic Overview:*
 - +Seminar presentations x2: literature review – mapping
- *Due:*
 - ***Prospectus**

Week 5 – June 6: Typology

- *Topic Overview:*
 - +Seminar presentations x3: literature review – typology
 - +Drawing presentation and discussions

Week 6: June 13: Typology

- *Topic Overview:*
 - +Seminar presentations x2: drawing precedent analysis – typology
 - +Drawing presentation and discussions

Week 7: June 20: Topology

- *Topic Overview:*
 - +Seminar presentations x2: literature review – topology
 - +Drawing presentation and discussions

Week 8: June 27: Topology

- *Topic Overview:*
 - +Seminar presentations x2: drawing precedent analysis – topology
 - +Drawing presentation and discussions

Week 9: July 4: Drawing as Research

- *Topic Overview:*
 - +Drawing presentation and discussions

Week 10: July 11

- *Topic Overview:*
 - +Drawing presentation and discussions

Week 11: July 18

- *Topic Overview:*
 - +Drawing presentation and discussions

Week 12: July 25: Drawing Exhibition

- *Due:*
 - ***Final Drawings**

COURSE READINGS + RESOURCES

Who are we as researchers?: ways of seeing and ways of knowing

- Foucault, Michel, and Colin Gordon. "Questions on Geography." In *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977*, edited by Colin Gordon, 75–89. New York, USA: Pantheon Books, New York, 1980.
- Kajijima, Momoyo. "[Learning from Architectural Ethnography.](#)" In *Architectural Ethnography*, 8–11. Tokyo, Japan: Toru Kato, 2018.
- Kimmerer, Robin Wall. "Mishkos Kenomagwen: The Teachings of Grass." In *Braiding Sweetgrass*, 1st ed., 156–66. Minneapolis, MN, USA: Milkweed Editions, 2013.
- Tsing, Anna Lowenhaupt. "On Nonscalability." *Common Knowledge* 25, no. 1–3 (2019): 143–62. <https://doi.org/10.1215/0961754X-7299210>.
- Tuhiwai Smith, Linda. "Research through Imperial Eyes." In *Decolonizing Methodologies*, 2nd ed., 42–57. London, UK: Zed Books, 2021.
- Weizman, Eyal. "Introduction: Forensis." In *Forensis: The Architecture of Public Truth*, 9–32. Berlin, Germany: Sternberg Press and Forensic Architecture, 2014.

What does it mean to conduct research visually? What are our sources? Who is the audience? What are the limitations? What are our biases? How will we draw?

Considering visual research + visual content

- Awan, Nishat. "Digital Narratives and Witnessing: The Ethics of Engaging with Places at a Distance." *GeoHumanities* 2, no. 2 (2016): 311–30. <https://doi.org/10.1080/2373566x.2016.1234940>.
- Kurgan, Laura. "Representation and the Necessity of Interpretation." In *Close Up at a Distance: Mapping, Technology and Politics*, 19–36. Princeton, New Jersey: Princeton University Press, 2013.
- Mirzoeff, Nicholas. "Visualizing the Anthropocene." *Public Culture* 26, no. 2 (2014): 213–32. <https://doi.org/10.1215/08992363-2392039>.
- Stalder, Laurent, and Andreas Kalpakci. "[A Drawing Is Not a Plan.](#)" In *Architectural Ethnography*, 15–17. Tokyo, Japan: Toru Kato, 2018.
- Zhu, Jianfei. "The Cartographic and the Geopolitical: Advocating a New Agenda in Architectural Thinking and Research." *Arq* 21, no. 4 (2018): 383–86.

Visualizing information + representation - techniques

- Allen, Stan. "Mapping the Unmappable: On Notation." In *Practice : Architecture, Technique + Representation*, Expanded 2., 30–45. London; New York: Routledge, 2009.
- Banou, Sophia. "Drawing the Digital : From ' Virtual ' Experiences of Spaces to ' Real ' Drawings." In *Drawing Futures: Speculations in Contemporary Drawing for Art and Architecture*, 20–27, 2016.

Thomas, Katie Lloyd. "Lines in Practice: Thinking Architectural Representation through Feminist Critiques of Geometry." *Geography Research Forum* 21 (2001): 57–76.

Tufte, Edward. "Escaping Flatland." In *Envisioning Information*, 1st ed., 12–35. Cheshire, CT: Graphics Press, 1992.

Research Guides

Cranz, Galen. "The Ethnographic Design Project: A Step-by-Step Overview." In *Ethnography for Designers*, 32–52. London, UK: Routledge, 2016. <https://doi.org/10.4324/9781315651262-7>.

Lucas, Raymond. "Chapter 3: Building Your Literature Review." In *Research Methods for Architecture*, 2016, 47–57.

Mapping: Examples, methods, theories, perspectives

Corner, James. "The Agency of Mapping: Speculation, Critique and Invention." In *Mappings*, edited by Denis E Cosgrove, 231–52. London, UK: Reaktion Books, 1999.

Kurgan, Laura. "Mapping Considered as a Problem of Theory and Practice." In *Close Up at a Distance: Mapping, Technology and Politics*, 7–13. Princeton, New Jersey: Princeton University Press, 2013.

Lee, Jessica J. *Two Trees Make a Forest*. Canada: Penguin Canada, 2020, 63-80.

Awan, Nishat. *Diasporic Agencies: Mapping the City Otherwise*. New York, NY: Routledge, 2016. (Chapter 6: Maps and Agency, and Chapter 7: Representing the Non-Representational)

Narrative and speculation: Examples, methods, perspectives, who is telling the story?

Bernheimer, Kate, and Andrew Bernheimer. "Fairy Tale Architecture," 2020. <https://placesjournal.org/series/fairy-tale-architecture/>.

Dodds, George. "On the Place of Architectural Speculation." *Journal of Architectural Education* 46, no. 2 (1992): 76–86.

Lai, Jimenez. *Citizens of No Place: An Architectural Graphic Novel*. New York, NY: Princeton Architectural Press, 2012.

Le Guin, Ursula K. "The Carrier Bag Theory of Fiction." *The Ecocriticism Reader: Landmarks in Literary Ecology*, 1996, 149–54.

Redniss, Lauren. *Oak Flat: A Fight for Sacred Land in the American West*. New York, NY: Random House, 2020.

Simpson, Leanne Betasamosake. "The Brilliance of the Beaver: Learning from the Anishnaabe World." Canada: CBC Ideas Podcast, 2020. <https://www.cbc.ca/radio/ideas/the-brilliance-of-the-beaver-learning-from-an-anishnaabe-world-1.5534706>.

Young, Liam, and Kate Davies. "A Distributed Ground: The Unknown Fields Division." *Architectural Design* 83, no. 4 (2013): 38–45.

More of Liam Young's work: Young, Liam. "Liam Young: Documentary/Fiction/Worldbuilding," n.d. <https://liamyong.org/>. and <https://vimeo.com/liyoung>

Engagement

[“The Earth Manual Project”](#), 2014. - [“Post Disaster Reconstruction Begins with Drawing Sketches”](#)

LA Más Studio. [“The Backyard Homes Project: An Affordable Housing Initiative.”](#) LA Más Studio, 2017.

See also *Ethnography for Designers*.

Typology

Politics and Economics

Bélanger, Pierre, Christopher Alton, and Nina-Marie Lister. “Decolonization of Planning.” In *Extraction Empire: 2017-1217*, 438–519. Boston, USA: MIT Press, 2018.

Shoshan, Malkit. *Atlas of the Conflict: Israel-Palestine*. Rotterdam, Netherlands: 010 Publishers, 2010.

Human and non-human users / Community / People

Tsukamoto, Yoshiharu. “Commonalities in Architecture.” *Bracket*, no. 4 (2020): 102–9.

Simpson, Deane. *Young-Old: Urban Utopias of an Aging Society*. Baden, Switzerland: Lars Müller Publishers, 2015.

Ewout Dorman, Annuska Pronkhorst, Michelle Provoost, and Simone Rots. [“Do You Hear the People Sing?”](#) *Who Owns The Street Exhibition*. Eindhoven, Netherlands, 2016.

Baxi, Kadambari Carver, Jordan H., Laura Diamond Dixit, and Lindsey Wikstrom. [Who Builds Your Architecture? A Critical Field Guide](#). Who Builds Your Architecture, 2017.

Culture and histories

Armborst, Tobias, Daniel D’Oca, and Georgeen Theodore. *The Arsenal of Inclusion and Exclusion: A Book about Accessibility in the Built Environment in the United States*. New York, NY: Actar Publishers, 2016.

Hidalgo, Alex. “Painters.” In *A Trail of Footprints: A History of Indigenous Maps from Viceregal Mexico*, 33–61. Austin, TX: University of Texas Press, 2019.

Topology

Ecology

Calvillo, Nerea. “Digital Visualizations for Thinking with the Environment: Introduction|Materiality.” In *DigitalSTS: A Field Guide for Science and Technology Studies*, edited by Carl Disalvo, Laura Forlano, Steven J. Jackson, Yanni Loukissas, Daniela K Rosner, and Hanna Rose Shell, 61–75. Princeton, New Jersey: Princeton University Press, 2019.

Zhou, Feifei. [“Historical and Fantastical Landscapes: The Making of Anthropocene Detonators.”](#) *Feral Atlas: The-More-Than-Human Anthropocene*, 2020.

Infrastructure and logistics

Jafari, Ghazal. "Grounding UPS: An Infrastructural Ethnography of a Logistics Corporation." Harvard University, 2018. <https://dash.harvard.edu/handle/1/37546286>. (*Chapter: Ethnography as Research Methodology: Infrastructural Ethnography? pages 51-55*)

Theoretical frameworks for thinking about Topology

Haraway, Donna. "Playing String Figures With Companion Species." In *Staying with the Trouble: Making Kin in the Chthulucene*, 9–29. Durham, North Carolina: Duke University Press, 2016.

Latour, Bruno. "Introduction to ANT: How to Resume the Task of Tracing Associations." In *Reassembling the Social: An Introduction to Actor-Network-Theory*, 1–17. New York, NY: Oxford University Press, 2005.

Tectonics

Vernaculars, Materials, Construction

Drawing Architecture Studio Beijing. "Architect as Urban Ghostpainter." In *Drawing Futures: Speculations in Contemporary Drawing for Art and Architecture*, edited by Laura Allen and Luke Casper Pearson, 2:135–38. The Bartlett School of Architecture, 2016.

Mellin, Robert. "Fishery Outbuildings." In *Tilting: House Launching, Slide Hauling, Potato Trenching, and Other Tales from a Newfoundland Fishing Village*. New York, NY: Princeton Architectural Press, 2003.

Benjamin, David, ed. *Embodied Energy and Design: Making Architecture Between Metrics and Narratives*. New York, NY: Lars Müller Publishers and Columbia GSAPP, 2017.

Kajijima, Momoyo, Junzo Kuroda, and Yoshiharu Tsukamoto. "Made in Tokyo." Tokyo, Japan: Kajijima Institute, 2002.