

Dalhousie University
School of Architecture

ARCH 3501

B1 REPRESENTATION

3 CREDIT HOURS

Class: Thursdays 14:30–17:30, Fall 2024
Location: B Bldg. B311, Sexton Campus
Website: dal.brightspace.com

Instructor

Daniel Dickson / daniel.dickson@dal.ca
Office Hours: Weekly, time & place TBD.

Teaching Assistants

Janson Chan (M5) / janson@dal.ca
Chris Suh (M5) / nm733401@dal.ca
Gabriel Malo (M5) / gb502421@dal.ca
Nicholas Stefanakis (M5) / nc226558@dal.ca
Office Hours: By appointment.

Image: Architectural plans for the Killam Library.

Academic Information

Calendar Description

This course studies fundamental concepts, techniques, and applications of architectural representation. Class work involves freehand drawing, orthographic drawing, model making, and photography. Drafting and modeling equipment are required.

Format: Lecture/Studio. **Restrictions:** Year 3 BEDS students.

Learning Objectives:

This course aims to develop understanding and ability in the following:

- representational terminology
- freehand line and tone drawing
- orthographic drawing (manual and digital)
- diagramming ideas and information
- construction of models (sketch and analytical)
- multimedia narrative illustration and collage
- photographic documentation and digital processing
- basic graphic design principles and composition
- integrating course principles and topics into your term design work

Rationale for the Course

This course is the first in a suite of representation courses that aim to provide students with an overview of the representational strategies particular to architecture and design.

In B1 Representation, while focusing on fundamental representational types like drawing, multimedia, and graphics, students will be asked to consider why and where representation is needed.

In B2 Representation, students will build on B1 foundations alongside complementary representational types with increasing complexity and engagement with digital tools.

In B3 Representation, students will explore how B1 and B2 Representation types can engage with digital fabrication.

By the end of the year, students will be literate in and able to further designs through an up-to-date array of representational practices.

Additional Description

DEFINITION

Representation is an expressive **cultural form** developed in distinct practices in many global societies. Its end is to create an **objective** document that primarily refers to what can be experienced in a shared world.

It may be juxtaposed with its antithesis, **abstraction**, a **subjective** document that does not primarily refer to experiences in a shared world. While the aims of these cultural forms may be opposite – to specify what is apparent or what is hidden – they are both necessary to communicate the complexity of our worlds with nuance through documents and traces.

A third cultural form, a **visualisation**, is an intermediary and/or synthesis: it attempts to create a document that renders what is hidden apparent to the eye. Everything students produce in the course will be, to some degree, a representation, visualisation, or abstraction.

APPROACH

The course will introduce and develop a critical **taxonomic framework** to orient and disentangle students' architectural representation practice. The framework will survey the specific practice and tradition of **architectural representation**. The practice will be broken down into:

a series of **types**

(what is done; the representation)...

each with its **tools**

(with what is it done; an object used to create the representation)...

and **techniques**

(how is it done; an action used to create the object).

Often the line between type, tools, and technique will blur. Meanwhile, the course will acknowledge that, through complex and uneven globalisation, this specific practice can too easily be conflated as *the* practice of spatial representation. Students will be asked to recognise, reflect on, and draw with other representational practices thoughtfully and productively.

Additionally, each representational type will be characterised as maintaining particular qualities and potentials suiting differing ends or affects;

each has a **telos**

(why is it done).

Here, the course will zoom in and out from the theoretical to the practical to discuss what the extremes engaged and synthesised by each type:

REPRESENTATION BETWEEN...				YOURSELF AND OTHERS: EFFECTIVELY COMMUNICATE YOUR KNOWLEDGE AND ITERATE TOGETHER. WORLD AND IDEA: KNOW WHAT IS AND WHAT COULD BE. SPACE AND TIME: BECOME AWARE OF THE CONSTRAINTS. STATIC AND DYNAMIC: DEPICT, ACCOUNT FOR, AND MODIFY CONDITIONS.			
WORLD				IDEA			
THEESIS	ANTITHESIS	SYNTHESIS	QUESTIONS...	THEESIS	ANTITHESIS	SYNTHESIS	QUESTIONS...
EMBODY	DOCUMENT	COMMUNICATE	WHO UNDERSTANDS?	BODY	MIND	BE (ON)	WHO/WHAT/WHEN/WHERE/WHY AM I?
SUBJECT	OBJECT	RELATE	WHO/WHAT HAS A STAKE?	EXPERIENCE	REASON	KNOW (EPISTEME)	WHAT IS MY KNOWLEDGE?
PRESENT	ABSENT	ACCESS	WHO/WHAT IS BROUGHT IN?	CREATE	DESTROY	MAKE (FABER)	WHAT CAN I DO?
REPRESENT	ABSTRACT	SPECIFY	WHO/WHAT IS TRANSLATED?	PRAGMATIC	UTOPIC	ORIENT (TELOS)	WHAT IS MY GOAL?
SPACE				TIME			
THEESIS	ANTITHESIS	SYNTHESIS	QUESTIONS... WHERE?	THEESIS	ANTITHESIS	SYNTHESIS	QUESTIONS... WHEN?
LOCAL	GLOBAL	PLACE		OLD	NEW	HISTORY	
URBAN	RURAL	LANDSCAPE		ANALOG	DIGITAL	MEDIUM	
CENTER	PERIPHERY	TOPOGRAPHY		CHEAP	EXPENSIVE	COST	
INSIDE	OUTSIDE	ENVIRONMENT		PARTI	DETAIL	RESOLUTION	
CLOSED	OPEN	LIMIT		CLOSED	OPEN	LIMIT	
STATIC				DYNAMIC			
THEESIS	ANTITHESIS	SYNTHESIS	QUESTIONS...	THEESIS	ANTITHESIS	SYNTHESIS	QUESTIONS...
MICRO	MACRO	SCALE	HOW IS SCALE REPRESENTED?	DARK	LIGHT	VALUE	HOW IS VALUE REPRESENTED?
LIGHT	HEAVY	WEIGHT	HOW IS WEIGHT REPRESENTED?	FLAT	TEXTURED	MATERIALITY	HOW IS MATERIALITY REPRESENTED?
THIN	THICK	THICKNESS	HOW IS THICKNESS REPRESENTED?	COLD	HOT	TEMPERATURE	HOW IS TEMPERATURE REPRESENTED?
HARD	SOFT	FORM	HOW IS FORM REPRESENTED?	QUIET	LOUD	SOUND	HOW IS SOUND REPRESENTED?
SINGULAR	PLURAL	COMPLEXITY	HOW IS COMPLEXITY REPRESENTED?	CONSTANT	VARIABLE	MOTION	HOW IS MOTION REPRESENTED?
NEAR	FAR	DISTANCE	HOW IS DISTANCE REPRESENTED?	SLOW	FAST	SPEED	HOW IS SPEED REPRESENTED?

Through studying the types, tools, techniques, and telos of architectural representation while questioning the role of abstraction and subjectivity, the hope is that the course will offer a critical launch to students' practices.

METHODS

The course will use **tasks** to put the framework to creative work. Lectures will introduce and discuss a type before enacting it through a task begun in class. Over the term, students will develop a proficient use of these types in studio and at home towards their synthesis and remixing in an increasingly complex and personal architectural representation practice.

The instructor and students will simultaneously develop the framework through maintaining two textual documents to further the course work:

A **lexicon** will be available for compiling relevant representational keywords and their definitions, organized roughly by the weekly class topics ('types'). This lexicon will be open-sourced such that imprecision can be questioned and edited, and missing terms added towards the representational literacy of the class. During class, students will be encouraged to discuss definitions of novel terms to be appended.

A **reference list** will cite various sources to extend the representational study. The instructor will explain the value of a source, and students will be welcome to ask questions and add their own helpful or inspirational resources to the growing list.

IMPETUS

We are at a turning point in representation. The entangled challenge of climate change and the slow violence it perpetuates is engulfing, yet we glimpse this reality only obliquely. On the one hand, we are led by the boggling objectivism of data science and, on the other, by the subjectivism of phenomenal images. These non-relational, non-synthetic modes of representation – as pure documentation or mimesis – struggle to render and communicate the simultaneous depth and breadth of our climate’s turmoil.

Meanwhile, to communicate complexity, the art world pursues art that often abandons representation for pure abstraction, experience, or performance, while mass culture has become even more representational in the retreat to the digital and algorithmic. Albeit a generalisation, many contemporary cultural spaces narrowly engage with representation as a form that might be emancipating, agentive, or creative.

This course believes that architects can and must synthesise these extremes or binaries through their primary practice: architectural representation. Working from a position between objective data and subjective experience and between the markets of art and development, architects are positioned to renew the purpose of representation. They can deploy representation not only to document what exists or has existed at many scales but also to imagine what might come and how it might become.

Course Format

The course will consist of weekly lectures, hands-on tutorials, pin-ups, and discussions per the schedule below. Full task descriptions will be provided during the course and reviewed on the relevant class day. Workshops and support will be arranged during class time.

COMPONENTS

The course will discuss three overall representation types, each with three subdivisions:

Drawings (Projection, Sketch, Diagram)

Multimedia (Model, Photo, Collage)

Graphics (Illustration, Text, Document)

Each type will be associated with a **task**, where students produce the type while investigating a key concept in representation: *scale* through drawing, *materiality* through multimedia, and *composition* through graphics. Each task will be broken into three **subtasks**. Two of the subtasks will be weighed more lightly and offer an opportunity to build basic competency with

relevant tools and techniques; they will be more formulaic. The third subtask will be weighed more heavily; it will be an opportunity to revisit, build on, and synthesise the knowledge gained in the more process-oriented tasks.

A pin-up during each task before the due date of the third subtask will allow for redirection and course-correction, as well as discussion of possible approaches or ideas for forthcoming task iterations. All three tasks (including all subtasks) will be presented at a final, gallery-style review. The final task, **display**, will carefully document this event.

One task lies apart: **drafting**. This will relate to the first class' workshop on good drafting practices, and a first foray into technical drawing.

WORKLOAD

For this 3-credit-hour course, an average of 9 hours per week is expected for all course-related activities, including classes. Some weeks will require more time to meet deadlines, and others will be lighter. Please make a plan to balance the course with studio and other workload. If most students are spending substantially more time, please notify the instructor.

Required Resources

The primary text for this course, as referenced in the weekly schedule, is:

Ching, Francis D. K., and Steven P. Juroszek. 2018. *Design Drawing*. Third ed. Hoboken, New Jersey: John Wiley & Sons.

Further Resources

The reference list below notes academic resources to complement and extend the course's main areas of study. Various additional scholarly and popular sources will be compiled throughout the term.

The School of Architecture maintains a web resource about representation. This site includes information on materials, tools, drawing modes, techniques, exercises, and examples of student work: <https://tinyurl.com/dal-arch-rep>.

The School has also made several software tutorials available, including for Photoshop and Rhino: <https://tinyurl.com/dal-arch-software>.

Schedule

WEEK	CLASS	TYPE		CHING 3E READING	TASK BEGUN	%	TASK SUBMITTED	PIN-UP
1	12-SEP	SKILLS WORKSHOP		P. 1-12, 152-154	DRAFTING	5	–	
2	19-SEP	DRAWINGS	PROJECTION	P. 144-159, 174-7, 184-9	SCALE 1	5	DRAFTING DUE!	
3	26-SEP		SKETCH	P. 16-31, 40-8	SCALE 2	5	SCALE PROCESS	*
4	03-OCT		DIAGRAM	P. 336-40, 344-5	SCALE 3	20	SCALE PROCESS	
5	10-OCT	MULTI-MEDIA	MODEL	(SEE SOURCES)	MATERIALITY 1	5	SCALE DUE!	
6	17-OCT		PHOTO	(SEE SOURCES)	MATERIALITY 2	5	MATERIALITY PROCESS	
7	24-OCT		COLLAGE	(SEE SOURCES)	MATERIALITY 3	20	MATERIALITY PROCESS	*
8	31-OCT	DISPLAY (GUEST LECTURE)		–	FORUM	P/F	MATERIALITY DUE!	
9	07-NOV	GRAPHICS	ILLUSTRATION	P. 208-9, 212, 227-9, 233	COMPOSITION 1	20	–	
10	14-NOV	FALL READING BREAK.						
11	21-NOV	GRAPHICS	TEXT	C.11 (SKIM)	COMPOSITION 2	5	COMPOSITION PROCESS	*
12	28-NOV		DOCUMENT	C.12 (SKIM)	COMPOSITION 3	5	COMPOSITION PROCESS	
13	05-DEC	DISPLAY (FINAL)			EXHIBIT	5	COMPOSITION DUE!	*

The *Student Learning Experience Questionnaires* (SLEQ) will be scheduled during class time in the last two weeks.

Required Tools

While materials will be specified where relevant during the course for exercises and assignments, students should have access on the first day of class and at all course times to basic drawing tools, including:

- Sketchbook or unlined notebook;
- Drawing pencils in a range of hardnesses;
- Technical pencils and pens;
- Erasers (vinyl, gum/rubber, and/or kneaded).

The course will also gradually and on a limited basis introduce software. Students will need access to:

- Adobe Creative Cloud (Photoshop, Lightroom, InDesign, Illustrator) or equivalent image processing, graphic design, and vector drawing software.

Note: Use of 3D modeling and digital drafting software is not required in this course, but you may wish to start experimenting with Rhinoceros (with an evaluation or student license) or with AutoCad. The instructor and TAs will be unable to troubleshoot pirated software versions adequately.

Assessment

Evaluation

The instructors will evaluate all work with advice from the course assistants. Individual tasks are assessed numerically. Feedback will be a combination of oral and written.

The task grading rubric is based on the course framework:

	TYPES	TOOLS	TECHNIQUES	TELOS
DESCRIPTORS	ATTENTIVENESS, THOROUGHNESS, SYNTHESIS.	PRECISION, CLEANLINESS, CARE, EFFORT, STRATEGY.	SKILL, CRAFT, RESOURCEFULNESS.	INTENT, COMMUNICABILITY, CREATIVITY.
QUESTION	DO YOU MEET THE TASK'S OUTLINED REQUIREMENTS?	HOW COMPETENTLY DO YOU EMPLOY TOOLS?	HOW WIDELY AND ACUTELY DO YOU EMPLOY TECHNIQUES?	DO YOU DEMONSTRATE CRITICAL AWARENESS OF THE TASK'S TELOS?
ASSESSMENT	25%	25%	25%	25%
EXCELLENT	EXCEEDS THE TASK'S REQUIREMENTS.	CONSIDERABLE EVIDENCE OF CARE AND CRAFT IN EXECUTING THE TASK.	CONSIDERABLE EVIDENCE OF THE USE OF A VARIETY OF RELEVANT TECHNIQUES.	CONSIDERABLE EVIDENCE OF CREATIVE AND COMMUNICATIVE USE OF TOOLS AND TECHNIQUES.
GOOD	MEETS ALL THE TASK'S REQUIREMENTS.	EVIDENCE OF CARE AND CRAFT IN EXECUTING THE TASK.	EVIDENCE OF THE USE OF RELEVANT TOOLS AND MEETS TASK CRITERIA.	EVIDENCE OF CREATIVE AND COMMUNICATIVE USE OF TOOLS AND TECHNIQUES.
SATISFACTORY	MEETS MOST OF THE TASK'S REQUIREMENTS.	EVIDENCE OF SOME UNDERSTANDING OF CRAFT IN EXECUTING THE TASK.	EVIDENCE OF SOME UNDERSTANDING OF RELEVANT TOOLS AND TASK CRITERIA.	EVIDENCE OF SOME UNDERSTANDING OF REPRESENTATIONAL INTENT AND COMMUNICATION.
MARGINAL PASS	MEETS SOME OF THE TASK'S REQUIREMENTS.	EVIDENCE OF MINIMAL FAMILIARITY WITH CRAFT IN EXECUTING THE TASK.	EVIDENCE OF MINIMAL FAMILIARITY WITH RELEVANT TOOLS AND TASK CRITERIA.	EVIDENCE OF MINIMAL FAMILIARITY WITH REPRESENTATIONAL INTENT AND COMMUNICATION.
FAIL	MEETS NONE OF THE TASK'S REQUIREMENTS.	LITTLE EVIDENCE OF UNDERSTANDING OF CRAFT IN EXECUTING THE TASK.	LITTLE EVIDENCE OF UNDERSTANDING OF RELEVANT TOOLS AND TASK CRITERIA.	LITTLE EVIDENCE OF UNDERSTANDING OF REPRESENTATIONAL INTENT AND COMMUNICATION.

Mid-term Standing

Students will receive a grade by mid-term for the first tasks. Standing will more comprehensively be evaluated at the first process portfolio review, scheduled for mid-October.

Guidelines for Citing Sources

While there will not be extensive citations in this course, should they be necessary, please use the Chicago Manual of Style: Author-Date Style. For details, see:

Chicago quick guide: <https://tinyurl.com/quick-author-date>

Chicago Manual complete guide: <https://tinyurl.com/full-author-date>

Submission of Assignments

Project pinups will typically occur in the Exhibition Room. Assignment submissions will be in the format of a digital upload to the course Brightspace page, due before the start of class. A class Conceptboard will also be used to review process work roughly on a weekly basis.

Grading Format

All assignments are completed individually. All work is evaluated by the instructors, with advice from the course assistants. Individual exercises are assessed numerically. Feedback will be a combination of oral and written.

University Standards for Individual Assignments

Your final letter grade for the course will be based on the Dalhousie University Undergraduate letter grade to numerical score equivalence chart.

Letter	Percent	Definition	Description
A+	90–100%	Excellent	Considerable evidence of original thinking; outstanding capacity to analyze and synthesize; outstanding grasp of subject matter; evidence of extensive knowledge base.
A	85–89%		
A–	80–84%		
B+	77–79%	Good	Evidence of grasp of subject matter, some evidence of critical capacity and analytical ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.
B	73–76%		
B–	70–72%		
C+	65–69%	Satisfactory	Evidence of some understanding of the subject matter; ability to develop solutions to simple problems.
C	60–64%		
C–	55–59%		
D	50–54%	Marginal pass	Evidence of minimal familiarity with the subject matter; minimal analytical and critical skill.
F	0–49%	Fail	Little evidence of understanding of the subject matter; weakness in analytical and critical skills; limited or irrelevant use of the literature.
INC		Incomplete	(counts as zero in GPA calculation)
W		Withdrew after deadline	(neutral in GPA calculation)
ILL		Compassionate reasons, illness	(neutral in GPA calculation)

Course-Specific Policies

Due Dates and Late Submissions

Deductions for late submissions encourage time management and fairness to classmates, as well as prompt return of graded tasks. There will be a deduction of 4% of the total grade of a task out of 100% per day late up to a maximum of 5 days and 20%. After this, the task will receive 0% and no comments without due excuse. For example, if an assignment is evaluated at 75% before applying a 4%-per-weekday deduction, it would receive 71% for being 1–24 hours late, 67% for 25–48 hours late, etc.

N.B. The following School policies take precedence over course-specific policies:

- No late assignments are accepted after the last day of weekly classes (the Friday before review week).
- With a Student Declaration of Absence (maximum two per course), an assignment may be submitted up to three weekdays late without penalty. An SDA cannot be used for the final assignment.
- With a medical note submitted to the School office, a course assignment (including a final assignment) may be submitted more than three weekdays late without penalty. The number of weekdays depends on how long you were unable to work, as indicated in the medical note. If more than one course is affected, you should consult with the Undergraduate/Graduate Coordinator to set a new schedule of due dates.
- A student with an accessibility plan that allows deadline extensions does not need to submit an SDA.

Attendance

Students are expected to be present for the entirety of class. While there is no penalty for missed classes, information will only be explained or assignments reviewed outside of the scheduled times if the student can provide a *Student Declaration of Absence*.

Academic Integrity

The instructor will use plagiarism software to check written assignments. Students are expected to use citations liberally and submit these with tasks where relevant.

Lecture Notes

The instructor will provide lecture slides on Brightspace. Students may only record lectures if given express permission by the lecturer.

Support

Please contact your TAs for brief assignment questions and technical advice. Reserve contact with the instructor outside of class for broader course questions. In both cases, contact by email. The instructor will be available to talk briefly after class and at weekly office hours, the time of which will be determined during the first class.

To mitigate miscommunication and disdain, *a student representative* will be elected during the first class to promptly bring class concerns to the instructor's attention.

Faculty Policy

Equity, Diversity, and Inclusion

The Faculty of Architecture and Planning is committed to recognising and addressing racism, sexism, xenophobia, and other forms of oppression within academia and the professions of architecture and planning. We, the faculty, are working to address issues of historic normalisation of oppressive politics, segregation, and community disempowerment, which continues within our disciplines today.

University Policies and Resources

This course is governed by the academic rules and regulations set forth in the University Calendar and the Senate.

A. University Statements

ACADEMIC INTEGRITY

http://www.dal.ca/dept/university_secretariat/academic-integrity.html

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. Read more:

[https://www.dal.ca/content/dam/dalhousie/pdf/dept/university_secretariat/Syllabus_Statement_\(Aug%202015\).pdf](https://www.dal.ca/content/dam/dalhousie/pdf/dept/university_secretariat/Syllabus_Statement_(Aug%202015).pdf)

ACCESSIBILITY

The Student Accessibility Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of: a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (NS, NB, PEI, NFLD). Read more:

https://www.dal.ca/campus_life/academic-support/accessibility.html

STUDENT CODE OF CONDUCT

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution. Read more:

https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/student-life-policies/code-of-student-conduct.html

DIVERSITY AND INCLUSION – CULTURE OF RESPECT

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2). Read more:

<http://www.dal.ca/cultureofrespect.html>

RECOGNITION OF MI'KMAQ TERRITORY

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit the office in the McCain Building (room 3037) or contact the programs at elders@dal.ca or 902-494-6803 (leave a message).

B. University Policies and Programs

Important Dates in the Academic Year (including add/drop dates): http://www.dal.ca/academics/important_dates.html

University Grading Practices: https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Scent-Free Program: <http://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

Student Declaration of Absence: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/academic-policies/student-absence.html

C. Learning and Support Resources

General Academic Support – Advising: https://www.dal.ca/campus_life/academic-support/advising.html

Fair Dealing Guidelines: <https://libraries.dal.ca/services/copyright-office/guidelines/fair-dealingguidelines.html>

Dalhousie University Library: <http://libraries.dal.ca>

Indigenous Students: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Students: https://www.dal.ca/campus_life/international-centre.html

Student Health Services: https://www.dal.ca/campus_life/health-and-wellness.html

Counselling: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

E-Learning website: <http://www.dal.ca/dept/elearning.html>

Dalhousie Student Advocacy Services: <http://dsu.ca/dsas>

Dalhousie Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Faculty or Departmental Advising Support: Studying for Success Program:

http://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

D. Safety

Biosafety: <http://www.dal.ca/dept/safety/programs-services/biosafety.html>

Research Laboratory Safety Policy Manual: <http://www.dal.ca/dept/safety/documents-policiesprocedures.html>

Faculty of Architecture and Planning: Work Safety: <https://www.dal.ca/faculty/architecture-planning/current-students/inside-building/work-safety.html>

References

The following references will not be made directly available by the instructor. They are accessible at libraries, bookstores, etc. The instructor can help to locate a reference should there be any difficulty.

General

- Berger, John. [1972] 2008. *Ways of Seeing*. London: Penguin.
- Dondis, Donis A. 1973. *A Primer of Visual Literacy*. Cambridge, MA: MIT Press.
- Ingold, Tim. 2013. *Making: Anthropology, Archaeology, Art and Architecture*. London: Routledge.
- Klee, Paul. [1925] 1981. *Pedagogical Sketchbook*. London: Faber and Faber.
- Mattern, Shannon. 2017. *Code and Clay, Data and Dirt: Five Thousand Years of Urban Media*. Minneapolis: University of Minnesota Press.
- Porter, Tom. 2004. *Archispeak: An Illustrated Guide to Architectural Terms*. London: Routledge.

Drawings

- Butler, Cornelia H, and M. Catherine de Zegher. 2010. *On Line: Drawing Through the Twentieth Century*. New York: Museum of Modern Art.
- Clark, Roger H, and Michael Pause. 2012. *Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis*. 4. Aufl. Newark: Wiley.
- Dernie, David. 2014. *Architectural Drawing*. 2nd ed. London: Laurence King Publishing.
- Du Bois, W. E. B., Whitney Battle-Baptiste, and Britt Rusert. 2018. *W.E.B Du Bois's Data Portraits: Visualizing Black America*. First edition. Amherst, Mass: University of Massachusetts Amherst.
- Travis, Stephanie. 2015. *Sketching for Architecture + Interior Design*. London: Laurence King Publishing.
- Tufte, Edward R. 2001. *The Visual Display of Quantitative Information*. 2nd ed. Cheshire, Conn: Graphics Press.
- Unwin, Simon. 2003. *Analysing Architecture*, 2nd ed. London: Routledge.
- White, Edward T. 1983. *Site Analysis: Diagramming Information for Architectural Design*. Tucson, Ariz: Architectural Media.

Multimedia

- Albers, Josef. 1963. *Interaction of Color*. New Haven and London: Yale University Press.
- Carpó, Mario, ed. 2013. *The Digital Turn in Architecture 1992-2010: AD Reader*. Hoboken N.J: Wiley.
- Corner, James, and Alex S. MacLean. 1996. *Taking Measures Across the American Landscape*. New Haven: Yale University Press.
- Dunn, Nick. 2010. *Architectural Modelmaking*. London: Laurence King Pub.
- Eisner, Will. 2008. *Graphic Storytelling and Visual Narrative*. New York: W.W. Norton.
- Knoll, Wolfgang, and Martin Hechinger. 1992. *Architectural Models: Guide to Construction Techniques*. New York: McGraw-Hill.
- Shields, Jennifer A.E. 2014. *Collage and Architecture*. United Kingdom: Routledge.

Graphics

Bringhurst, Robert. 2012. *The Elements of Typographic Style*. 4th ed. Seattle, WA: Hartley & Marks.

Goffi, Federica, ed. 2022. *The Routledge Companion to Architectural Drawings and Models: From Translating to Archiving, Collecting and Displaying*. 1st ed. Routledge.

Hollis, Richard. 1994. *Graphic Design: A Concise History*. New York: Thames and Hudson.

Horenstein, Henry. 2011. *Digital Photography: A Basic Manual*. 1st ed. New York: Little Brown and Company.

Linton, Harold. 2012. *Portfolio Design*. 4th ed. New York: W.W. Norton.

Lupton, Ellen, Farah Kafei, Jennifer Tobias, Josh A. Halstead, Kaleena Sales, Leslie Xia, and Valentina Vergara. 2021. *Extra Bold: A Feminist Inclusive Anti-Racist Nonbinary Field Guide for Graphic Designers*. 1st ed. Hudson, New York: Princeton Architectural Press.

Wells, Liz, ed. 2015. *Photography: A Critical Introduction*. Fifth edition. London: Routledge.