

Waterloo Architecture

**ARCH 692 Thesis Development Studio and Seminar  
ORGANIC & ANORGANIC ARCHITECTURE**

**Philip Beesley**

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Edit PB Sept 3'23

**Territorial Acknowledgement**

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>)

**Studio days**

Tuesday 9:30-12:30 & 1:30-5:30 pm

Thursday seminar 9:30-12:30 excepting Thursdays following reviews 9:30-5:30

Variable programming may also occur Thursday 1:30-5:30 pm.

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Availability: via appointment by Zoom Mondays-Fridays 9 am-6 pm

**Summary**

Arch 692 ORGANIC & ANORGANIC ARCHITECTURE supports development of your architectural thesis. The course will be organized in three stages, moving through a first stage where you are asked to assemble a personal library of texts, sites and architectural projects, a second part involving documentation of a selected site and design projections related to that site, and finally to an integrated research outline that proposes your own thesis approach. At the end of the course, you will be asked to produce an outline formatted as a small book and unified by a common graphic format for dissemination.

This sequence of development is designed to help you to produce key ingredients of your full thesis. Design and experiments will be emphasized alongside text-based work. You will be encouraged to reach substantial depth and focus in your own work. I will tend to encourage a wide range of architectural exploration that includes projections into the future and past, employing personal contemplation, cultural history, and technical development. You will be supported by templates and workshop sessions where early drafts can be developed and progressively refined. Practical support will be provided for the specialized

crafts of creation-based research and scholarly writing. We will include the crafts of rhetoric and argument, and of design research including orthography and modeling, information systems, and form and material based manipulation.

The course will be framed by the research of the Living Architecture Systems Group <lasg.ca> and by readings in contemporary complex systems oriented to the natural world. You will be asked to develop your own work in relationship to that material.

Alongside the formal LEARN online tool, we will use two online spaces: an online Miro pin-up space where your accumulating work can be shared and presented, and the online tool Basecamp for threaded class discussions and filesharing.

## Topics

A wide range of topics can be supported by the structure provided within this course, encompassing social, natural and technical domains. This wide range will be focused by discussions following the twin topics of organicism and anorganicism in architecture. Organicism is the long tradition that views buildings and structures as living organisms, emphasizing harmonious relationships between a structure and its environment. Organicism seeks to create designs inspired by natural systems and processes, promoting a sense of unity and coherence in architectural compositions. Consciousness and subtle phenomena form natural extensions to this approach. The term anorganicism, on the other hand, evokes transitions that includes forms alien to nature. Anorganicism can include investigation of computational and virtual design, new technologies, and new kinds of architectonics and materiality. The combination of both these terms offers enriched explorations that actively crosses boundaries. The core practice of architectural design underlies this approach.

The contemporary study of transitions between inorganic and organic forms of life provides potent material that can be applied to contemporary architecture, seeming to question the stable world of Vitruvian\* architecture<sup>1</sup>. By focusing on the relationship-systems expressed in geometry and topology, new hybrid relationships within multiple interconnected and interdependent systems may be revealed. New kinds of sustainability can form urgently-needed foundation to the questions that emerge. These relationships can guide emerging paradigms for design.

## Theory and Craft Seminar

In parallel with thematic concentrations, a series of workshops will be offered based on crafts of knowledge-creation, rhetoric, and orthography. scales. Supporting your individual thesis development, this theory and craft seminar will offer readings and studies drawn from new and traditional research sources. We will follow a set of readings and design explorations related to dynamic form-languages and interacting systems, seeking

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<sup>1</sup> . The term 'Vitruvian architecture' refers to the long tradition of western architecture originally defined by the ancient Roman writer Marcus Vitruvius Pollio, with his famous emphasis on 'Firmitas', or permanence, along with other core qualities including fitness of use and beauty. For example, within the Living Architecture Systems Group <www.lasg.ca>, paradigms associated with living systems are being explored as replacements for Vitruvian paradigms.

understanding of how materials could interact in a dynamic, constantly evolving and self-organizing world. Readings will be offered providing reflection on the relationship of nature with the human-made environment.

The seminar will also offer practical thesis workshops in writing, rhetoric, and citation. This will support a wide range of approaches. Crafts fostered within our workshop sessions include sustainable architectural construction detailing, component and industrial design and professional practice. These can be applied to multiple scales, from local to urban and regional approaches to architecture.

### **Learning Objectives**

This course is dedicated to the development and expression of an outline that forms the first phase of their architectural thesis. The specific ingredients of that outline are identified in the description of Assignment Three appearing within this course outline. The thesis outline should include reasonably precise topic identification accompanied by a context of related literature, architectural precedents, and relevant sites.

By the end of the course, students should be able to express well-developed knowledge focused on a chosen architectural thesis topic. They should demonstrate access to sources that provide effective references for their thesis, and substantial knowledge of selected samples from those sources including key problems and debates within the related field. Integrating this material, they should demonstrate a core synthesis, expressed in text and design, and framed by a cultural and natural context. This expression should demonstrate fluency in the crafts of architectural research and knowledge-creation. In addition, the student should demonstrate competency in interdisciplinary practice that integrates a range of individual disciplines, some of which may have different and even conflicting terms of quality.

### **CACB Student Performance Criteria**

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The BAS/MArch program enables students to achieve the accreditation standards set by the Canadian Architectural Certification Board as described [here](#). This course addresses the CACB criteria and standards that are noted on the Accreditation page of the School of Architecture [website](#).

ARCH 692 engages the following criteria described by the Canadian Architectural Certification Board, with details available at the following link:

[https://cacb.ca/wp-content/uploads/2019/11/2017-CACB\\_Conditions\\_and\\_Terms\\_for-Accreditation.pdf](https://cacb.ca/wp-content/uploads/2019/11/2017-CACB_Conditions_and_Terms_for-Accreditation.pdf):

- A1 - design theory, precedents and methods,
- A2- design skills, and
- B3 - architectural theory
-

## THESIS DEVELOPMENT ASSIGNMENTS

### ASSIGNMENT ONE

#### Personal Library

**Assigned:** Thursday, Sept. 7

**Due:** Monday, Oct. 2

**Review:** Tuesday, Oct. 3

Create an illustrated catalogue of **texts**, precedent **projects** and **sites** that can support development of your thesis topic. Compose this catalogue in three layers: one individual page devoted to each reference; groups of those pages accompanied by a short introduction to that group, and an introductory essay that introduces the groups of references. Use a standard format that supports organization of the evolving and expanding collection within your personal reference library.

#### Catalogue Pages:

Select and quote one or more sample texts or visual documents from each reference, fully cited.

#### Groups:

Organize this material into groups identified with topics of your choosing, framing general themes and disciplines that can support your long-term thesis research. Document the organization of this catalogue by composing short introductions to each topic group. Survey the ingredients and indicate the general nature, context and approaches offered by the particular group of references. Identify potential relevance of the topic group to your thesis.

#### Introduction:

Compose an introductory essay that surveys each of the section introductions and that introduces the library as a whole. catalogue that acts as the equivalent of a traditional dissertation's 'review of literature'. Your essay should survey the multiple groups of material, explaining how you have organized it. and identifies particular research allied with your own interests. Quote specific authors within this essay. Choose one or more references for substantial investigation. Provide detailed summaries of key parts of these selections accompanied by your own commentary. Accompany this material with your own diagrams and illustrations, expressing key relationships that relate to your thesis.

Demonstrate your control of academic writing and rhetorical knowledge-creation crafts through integration of citation and commentary within this essay.

## **ASSIGNMENT TWO**

### **Site and Project**

**Assigned:** Thursday Oct. 5

**Due:** Monday Oct. 30

**Review:** Tuesday Oct. 31

**Gallery Event:** Tuesday evening, Oct. 31

Document a selected site, preparing it for design development. Propose a change to your site.

#### **Site**

Explore dynamic systems that are active within and around your chosen location. Explore the craft of drawings, models and projections by investing in at least one highly detailed document. Include plan and section-elevation documents. Scale, situation of your choosing. Consider complex relationships and subtle phenomena.

Increase your depth of examination of the chosen site by documenting specialized qualities. Produce rendered illustrations supported by orthography. Include a 'lexicon' of formal elements and organizational systems related to the site. Consider your own perceptions, and document them. Include summary diagrams that express underlying relationships. Show multiple interrelated scales.

#### **Project**

Develop a proposal for changing the site. Express this in the form of a project. Scale, material, systems of your choosing. Compose a model and graphic panels that present key qualities of this exploration. The balance of investment within model, graphics, and other forms of documentation is for you to choose.

## **ASSIGNMENT THREE**

### **Research Outline**

**Assigned:** Thursday Nov. 2

**Submission due:** Tuesday Dec. 11

**Review:** Wednesday and Thursday Dec. 12 & 13

**Final Hand-in:** Dec. 20

Present an individual thesis outline, integrating material from your preceding studies and extending this with further personal exploration. Present this material in the form of a compact book. Assignment 3 represents the complete synthesis of your term work.

### **Final Book Contents**

Organize using the traditional craft of a scholarly thesis. Format the book following a standard graphic template, to be provided you.

Produce an abbreviated thesis outline that demonstrates formal structures of knowledge-creation, including

Abstract: condensed summary describing key aspects including topic identification, terms of reference and scope, draft argument

Contents

- Introduction to thesis outlining key issues, including historical and theoretical context
- Identification of problems associated with your topic
- Summary of your proposed synthesis
- Design studies
- Site studies
- Analysis: review position demonstrated by your project and discuss implications
- Review of literature: an annotated reading list, accompanied by discussion of existing scholarship and preceding approaches

Conclusion: evaluate and propose further development

Appendix: propose a sequence of research for completion of your thesis, including a schedule and work plan

### **A Note on Abstracts**

Abstracts are used by researchers searching for reference material. Abstracts should be written in a manner that efficiently conveys information other researchers need for judging whether your work might be relevant to their own searches. While an abstract normally appears as a preface to a thesis, it should be written as a compact, self-sufficient document that can also appear separate from that work. Abstracts normally include a precise indication of what your thesis contains. This should include a precisely defined topic with contents and scope that you cover, the disciplines that are involved, particular writers and precedents where those are relevant, and your principal argument. Effective abstracts often use a compressed, distilled expository rhetoric. Abstracts may repeat text appearing within the introduction and body of your thesis.

While abstracts can have a variable length, a first paragraph may sometimes be quoted alone and therefore primary ingredients of the thesis should appear within the first few lines of your abstract text. Journal and conference publications will often require a limit of 150-250 words and a single-paragraph format for the entire abstract. An abstract can be distinguished from an introductory essay for a thesis. Introductory essays do not have the length constraints of an abstract. These introductions can take an extended form, surveying the text ingredients of the body of the thesis and acting as a comprehensive review that summarizes review of literature and precedents, analysis, synthesis, and conclusions. Visual documents produced within the thesis may likewise be summarized and repeated within the introduction. It may be effective to consider different sections for an introductory essay, supporting varying treatments of specialized topic material and addressing organization and scope of the study.

## **GOVERNING DETAILS**

### **Seminar Form**

The course will be organized as a seminar that involves active discussion and exchange between member students. This approach asks for active participation.

### **Class Meetings**

Lectures and class meetings will be held throughout the term, scheduled in advance and programmed in response to the evolving progress of the group. Specific dates will be established as the term evolves, responding to class progress. Meetings will often be called for 9:30 am at the beginning of studio days. Be punctual: arrive shortly before the meeting time. Check your email late evening on the day before or early morning on studio days for updates on meeting times and locations.

### **Class Communication and Organization**

Organize the class with a class representative. This structure can be used for providing critical feedback and for coordinating evolving details through the term.

### **Submissions and Online Communication**

The course will use the ARCH 692 Living Architecture Systems section of LEARN for formal course submissions. Enter the LEARN site by using your 'UWDir' ID and password. You will be asked to make digital submissions of assignments on that site.

Informal group discussion will be administered using an online 'Basecamp' space. This software will be demonstrated during the startup phase of the studio. Each individual will be provided an individual login.

### **AI Policy: Permitted in this Course Only with Attribution and Appendix**

In this course, students are permitted only under certain conditions to use Generative AI Tools like ChatGPT and Midjourney to support their work. These conditions include disclosure and documentation in a process-based appendix.

In order to adapt your approach appropriately to these quickly-evolving tools, discuss your proposed tool use with your instructor.

#### **Disclosure**

In order to maintain academic integrity, students must disclose all AI-generated material and properly attribute it. This disclosure must include AI generation whether in whole or part, including images, designs, in-text citations, quotations, and references. The full extent of images and text passages assisted and/or originating with Generative AI tools must be cited. This approach complements but does not replace your obligation to produce original work for your assignments. The University's Policy 71 provides essential regulations that apply in parallel to this requirement.



### **Sample General Citation**

The following statement in assignments may be used to indicate general use of a Generative AI Tool: “The author(s) acknowledges the use of [Generative AI Tool Name], a model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was used in the following way(s) in this assignment: [indicate, e.g. grammatical correction, gathering sources, generating specific images, etc.]”

### **Examples for Citation**

MLA and Chicago standards relating to citation of image and design material assisted by generative AI may be found at the following links:

<https://style.mla.org/citing-generative-ai/>

<https://www.chicagomanualofstyle.org/qanda/data/faq/topics/Documentation/faq0422.html>

<https://camosun.libguides.com/Chicago-17thEd/ai>

### **Process-based Appendix documenting AI use**

If you use any AI tools for generating and/or editing your submission, document this use in an appendix that permits clear, efficient comparison of your final work with the AI generated version as follows:

- Indicate the prompts that you provided to the AI tool
- Provide a raw copy of the AI tool’s generated material.
- Include captions for each part of the generated material identifying the particular material, indicating source and date.

### **Evolving Conditions, Potential for Amendment of Guidelines**

In order to recognize the quickly evolving nature of AI tools, the right to amend the guidelines listed here is reserved.

### **Caution**

When using AI tools, it is important to be aware that the user data supplied might be utilized for training AI models or other purposes. Consequently, there is no guarantee that the information you provide will remain confidential. Instructors and students should exercise caution and avoid sharing any sensitive or private information when using these tools. Examples of such information include personally identifiable information (PII), protected health information (PHI), financial data, intellectual property (IP), and any other data that might be legally protected.

### **Evaluation**

In addition to verbal evaluation provided via reviews of the assignments, each assignment will be individually graded. Assignments will be evaluated based on clarity of ideas and creative approach, depth and ambition, and quality of documents. General criteria include completeness, and participation in the class. These may affect the total grades assigned.

Each evaluation will be recorded in the form of numeric grades calculated by assessing three criteria, weighted equally:

- Conceptual quality: clarity, precision, demonstration of insight and analysis
- Depth and Ambition: substance and range of high quality research, design and other forms of creation
- Craft quality: expressive qualities including quality of communications; fluency in knowledge-creation research craft and interdisciplinary practice; quality of text, visual documents and design documents
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### **Proportion of final grade**

- Assignment 1 Catalogue 20%
- Assignment 2 Site & Project 20%
- Assignment 3 Research Outline 60%
- Assignment 3 carries an additional requirement: in addition to the final grade average, in order to achieve a passing grade for the term, Assignment 3 Research Outline must receive a passing grade.

### **Late Work and Absence**

Submit your work on time. Assignments are due at the specified time and date. All assigned parts of the work must be completed. For submissions administered with evening deadlines, grade penalties for lateness would be assessed at 5% up to midnight, and 5% next day and each day afterward. 'Days' begin at midnight each day, and include weekends and holidays.

Only in the case of a justified medical or personal reason will these penalties be waived. For verified health concerns, please discuss this with your instructor before submitting a Verification of Illness Form (VIF) to the Academic Services Coordinator and Associate Director, in the Architecture Graduate Office. Personal extenuating circumstances need to be communicated to your instructor who will coordinate with the Graduate Office as needed. This is not the same as the AccessAbility Accommodations or the short term absence process.

A doctor's note is required to excuse absence or lateness because of illness. In the case of illness or other special circumstance, notification should be given to the instructor and the Program Office as soon as possible and before the deadline in question.

### **Your Availability**

Keep your schedule clear of conflicting commitments during scheduled studio periods. Maintain availability for individual and group meetings. Be in full attendance for studio from 9:30-12 a.m. and 1-5:30 p.m. on studio days as indicated in this outline and subsequent detailed schedules. Class focus is required: no external work during meetings and lectures. Attend all scheduled lectures and meetings.



## UNIVERSITY STANDARDS

### 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, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm> When in doubt, be certain to contact the department's administrative assistant who can 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 their 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](#).

### Undertake your own work

In general, you are required to undertake work that you represent as yours by yourself, without copying or adapting work by other, with the exception of work that you derive from others and in turn credit to those others. 'Others' includes AI tools. All work derived from others must be appropriately cited.

### Turnitin.com:

Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit the alternate assignment.

## 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.

## 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.

## Equity, Diversity and Inclusion Commitment

The School of Architecture is committed to foster and support equity, diversity and inclusion. If you experience discrimination, micro-aggression, or other forms of racism, sexism, discrimination against 2SLGBTQ+, or disability, there are several pathways available for addressing this:

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, Graduate office, or Director ([DirectorArchitecture@uwaterloo.ca](mailto:DirectorArchitecture@uwaterloo.ca)). If you contact any of these people in confidence, they are bound to preserve your anonymity and follow up on your report.

C) You can 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>.

D) Racial Advocacy for Inclusion, Solidarity and Equity (RAISE) is a student-led Waterloo Undergraduate Student Association (WUSA) service launching in the Winter 2019 term. RAISE serves to address racism and xenophobia on the University of Waterloo campus with initiatives reflective of RAISE's three pillars of Education and Advocacy, Peer-to-Peer Support, and Community Building. The initiatives include but are not limited to: formal means to report and confront racism, accessible and considerate peer-support, and organization of social events to cultivate both an uplifting and united community. You can report an incident using their online form.

## 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. Once registered with OPD, please meet with the professor in confidence to discuss your needs.

### **COVID-19 Special Statement**

Given the on-going 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.

### **Fair Contingencies for Emergency Remote Teaching**

To provide contingency for unforeseen circumstances, the instructor reserves the right to modify course topics and/or assessments and/or weight and/or deadlines with due and fair notice to students. In the event of such challenges, the instructor will work with the Department/Faculty to find reasonable and fair solutions that respect rights and workloads of students, staff, and faculty.