ARCS 5031 / M. Arch. 1 - Studio I
Fall 2019 / Monday, Wednesday, Friday 1:35 – 5:25pm
Instructors: Prof. Bonier & Prof. Voordouw
Visualization Tutor: Michael Yoshimura

Space and Site // Visualization and Translation

The fall term runs from September 4 to December 21st

INTRODUCTION
This is an introductory architectural studio, in which students will learn to work in multiple media, and to understand and develop their projects under the mentorship of their instructors. Students will learn the languages and techniques that will allow them to work towards professional competence within a collaborative profession. At the same time, each student will be required to develop their independent voice as a designer. While each student will have individual strengths, each student will develop their ability to actively interrogate images and objects, and to develop new products, questions, and ideas based on their own interpretations.

COURSE THEME & FORMAT
Because this studio provides an introduction for students with varied educational and professional backgrounds, assignments may be undertaken through various techniques, and will broach a range of complexities. Students more familiar with design techniques are welcomed to expand their projects, pushing their skills further. We also request that you assist your fellow students through positive mentorship. For those new to architectural studies, we recommend that you focus on the quality and craft of your work, and exercise patience. Each step will build on the next, and instructors and teaching assistants are available to help. Use this studio for vital skills acquisition, design development and as a first step towards the three studios and thesis to follow. Each student will have the opportunity to undertake collaborative research and critical analysis, while developing their communication skills.

This studio will undertake three projects that allow students to build the fundamentals of architectural design. The first design investigation takes on issues of material, construction, space, and scale. The second project will allow students to construct and to analyze relationships between site, structure, and space. The third project will allow students to synthesize the two prior projects into a small building project, to develop preliminary skills of program preparation and design.

COURSE OBJECTIVES, PEDAGOGY and ASSIGNMENTS
Students will develop their design abilities in this course through regular design projects, desk critiques, group critiques, informal pin-ups, formal reviews, project and program proposals, and other assignments.

Course Objectives:
1. To demonstrate basic mastery of architectural conventions, including the techniques of plan, section, elevation, axonometric drawing, and 3D physical and digital model construction.
2. To consistently produce drawings, models, writings, and other design studies which are thoughtfully constructed and complete.
3. To explore procedures of iterative layering and transformation, in order to creatively develop design ideas and questions.
4. To develop a foundation for architectural literacy: visual, verbal, and written.
5. To begin to generate architectural projects situated in ideas, and iteratively modified to engage informed readings of site and environment.

OFFICE HOURS
Faculty office hours are available 30 minutes before each studio, by appointment.

STUDENT RESPONSIBILITIES in this course

STUDIO CULTURE
- Carleton has a strong studio culture. This culture has evolved with new modes of working, particularly the computer. We are aware of the transition of students away from studio and into the computer lab. We request that students actively counter this migration. **Please work in studio either on laptops, desktops or via analog means.** Working in studio is fundamentally important for establishing a collegiality which will lead to lasting friendships and the development of an important support network that will aid in the development of each student's work through peer learning and collective engagement.

STUDIO ATTENDANCE
- **Attendance to every studio is mandatory** with the exception of the site visit where attendance is strongly recommended.
- Attendance for the full, designated hours constitutes a student's contract with the School and Instructor. *Studio is not, therefore, a place to "check in, check out".* It is each student's responsibility to keep informed of decisions and announcements made during class hours regarding assignments, workshops, seminars, and related matters.
- Partial attendance on any class day is equivalent to an absence. Please conduct research, additional site visits, and purchasing of materials outside studio hours.
- Poor attendance by missing class, being continually late for class, leaving early or not participating during group discussions will adversely affect your experience and education. We will deduct marks for poor attendance and / or poor in class participation.
- If attendance is especially poor (missing 3 classes throughout the term) we reserve the right to fail the project regardless of the quality of the final work.

REVIEW CULTURE
While it is common to work till the last minute, this is disrespectful to your fellow students. Everyone must be present and engaged to support their fellow colleagues as they present their work. These presentations often offer vital insight that might improve one's own project. Attending reviews is an integral part of studio and architecture pedagogy. It is part of your development towards the profession.

REVIEW ATTENDANCE
- **Attendance to all reviews is mandatory.** *Students are required to join pin-ups and reviews from start to finish and may not under any circumstance continue working on their projects.* Non-attendance of reviews or pin-ups may result in the lowering of a student's final grade, with the exception of extraordinary medical or family circumstances and upon presentation of justificatory note. Pin-ups, reviews, or seminars may be scheduled either in advance or spontaneously throughout the term in support of studio themes and working methods.
- **Missing the final review is unacceptable**. Without proper documentation, it will result in a zero for the review grade and may result in a reduced project grade.

FEEDBACK
All studio tutorials, workshops and lectures, pin-ups and reviews are considered feedback, whether from the instructors or guest critics. Thus, students are expected to keep records (by taking notes) accordingly. At reviews, make sure to have a colleague take notes while you present your work.

PLAGIARISM
- In studio ideas from precedent studies are difficult to adjudicate in relation to conventional notions of plagiarism. However, students should endeavor to properly cite information/data collected during the research stage of the studio and maintain all standards of academic excellence and integrity in written/research aspects of the project. For example, please reference environmental data, ordinance

survey maps, historical data/images, from books or online, etc. If you are downloading images, be sure to right-click to save image source, rather than trying to find it again later!
- Regarding precedent studies reference: building name, location, architect, and date of completion. Ensure you indicate why the image is relevant to your project.
- Please use the Chicago style manual as guidance.
- Please refer to the academic handbook for guidance. If in doubt, please consult the instructor

COMPUTING
We strongly recommend that students focus computer-design work using **Rhinoceros**, **Maya**, or **3DS Max** as their central design platforms, in conjunction with Adobe Creative Cloud. The Rhino beta-version for Mac is free but does not allow for advanced computation, full functionality, or most plug-ins. **Sketch-Up or Revit are not acceptable alternatives to recommended 3D modeling softwares.**

TIME MANAGEMENT
It is your responsibility to plan your time accordingly. Do not plan shift work, appointments or other non-academic activities during studio time.

WORKSHOP ORIENTATION AND TRAINING
- To those students new to Carleton, please ensure you complete your workshop orientation and training in the first weeks of September. (mark.macguigan@carleton.ca)

COMMUNICATION
- E-mail is a permanent record of communication and should be used professionally. Prior to contacting your instructor please reference the Course Outline, Project Brief, and CULearn.
- E-mail should be used to make an appointment prior to any meeting
- We will respond to non-emergency student e-mails twice per week
- Please do not contact the via phone. If you need to make an appointment, please do so during studio or set up a preferred date and time via e-mail
- If you are not receiving e-mails through your Carleton Account it is the student's responsibility to contact CCS to resolve the issue.

CALENDAR *(See Schedule PDF on CULearn)*

ACCEPTABLE ABSENCES & EXTENSIONS
- Illness, with proper medical documentation, and family grievance are examples of acceptable absences.
- Employment responsibilities, whether on or off campus is **not** an acceptable reason for lateness, lack of attendance or an extension.
- It is the student's responsibility to periodically back-up their work. While we empathize with data loss due to corruption, deletion or theft it is not grounds for an extension.

GRADING AND REQUIREMENTS
"Studio projects will be evaluated on the (1) strength of design concept/concepts, (2) development and articulation of the concept according to the objectives set forth in the project assignment, and (3) the clarity, craft and completeness of the work submitted at the hand-in deadline."

Percentage Breakdown List – Studio Projects

Project 1 (Catalogue of Carved, Cast & Constructed Spaces)	20%
Project 2 (Site)	15%
Project 3 (Building)	30%
Project Reviews (3 x 5%)	15%
Final Portfolio	10%
Discretionary	10%

- Every day a submission is late is a 2% reduction in the project grade.
- The first 2% reduction occurs directly after the deadline time.
- To ensure parity, final grading will be completed collectively and final grades will be in agreement of both studio instructors. Therefore, your final grade is 1) a reflection of our collective expectations for the studio, 2) the quality of your work in relation to your studio group and 3) in relation to the year as a whole.

ACADEMIC ACCOMMODATION
You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

- **Pregnancy obligation**: write to us with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the Student Guide
- **Religious obligation**: write to us with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the Student Guide
- **Academic Accommodations for Students with Disabilities**: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

STUDENT CONDUCT
Please refer to the following links in the University Calendar for guidelines on Academic Integrity and Student Conduct.

> **E. Student Conduct**
> 12.0 Academic Integrity
> 13.0 Offenses of Conduct: Discrimination and Harassment
> 13.1 Carleton University's Human Rights Policy
> 13.2 Unacceptable Conduct
> 13.3 Enforcement
> 13.4 Formal Procedures

GRADING
For the grade in the "A" range, the instructor will have judged the student to have satisfied the stated objectives of the course in an outstanding to excellent manner; for the "B" range, in an above average manner; for the "C" range, in an average manner with C- being the lowest acceptable grade in the BAS - Design Core courses; for the "D" range, in the lowest acceptable manner in non-Core courses, and for "F", not to have satisfied the stated objectives of the course. Grades will be assigned as A+ (90-100%), A (85-89%), A- (80-84%), B+ (77-79%), B (73-76%), B- (70-72%), C+ (67-69%), C (63-66%), C- (60-62%), D+ (57-59%), D (53-56%), D- (50-52%), F (0-49%) and ABS. A grade of C- or better in each course of the BAS - Design Core is required for a student to remain in *Good Standing*. (Please refer to the Undergraduate Calendar http://www.carleton.ca/calendars/ugrad/1011/regulations/acadregsuniv2.html#2.3 for

regulations concerning grades and other program requirement information and
http://www.carleton.ca/calendars/ugrad/1011/programs/architecturalstudies.html for regulations
concerning grades and other program requirement information specific to the Architecture program.

Each grade will be based upon a comparison (1) with other students in the course and/or (2) with
students who have previously taken the course and/or (3) with the Instructor's expectations relative to
the stated objectives of the course, based on his/her experience and expertise.

ATTENDANCE
Attendance during arranged Studio hours is mandatory and an essential part of a student's contract with
the School and their instructor. It is a student's responsibility to be informed of decisions and
announcements made during these hours. **Frequent unaccounted-for absences from studio meetings,
seminars, reviews and desk crits, may result in a failing grade whether or not assignments have been
completed**.

RETENTION OF WORK and PORTFOLIO
(http://www.carleton.ca/calendars/ugrad/1011/programs/architecturalstudies.html)
Keeping a good portfolio is a most important part of architectural education. A portfolio represents a
record of the student's progress and design experience over the years and is an indispensable document
for any job application in the future. The School therefore requires that each student document their
term's work with high resolution scans of manual drawings, photographs of models, and saved files of
work produced digitally. From First Year through to graduation, students are to create the following:
- A digital Folder containing jpg files of all term's work
- A digital Portfolio saved as a PDF file.
Please title the digital folder following this example: "ARCS 3105_Last name_2016_Instructor name."
Please use the 11 x 17 landscape format and a simple and clear graphic language for the digital portfolio.

Submit Folder and Portfolio to your instructor digitally, and keep files carefully for your records. Note also
that your instructor may require a printed copy of the Portfolio.

The School reserves the right to use the images for the following: retrospective exhibitions of work,
accreditation, publications and references for pedagogic purposes. Original work is the property of the
students, but the School retains the right to keep work of merit for up to two years after the date of
submission. The School will make every effort to preserve the work in good condition, and will give
authorship credit and take care of its proper use.

STEWARDSHIP

Architecture, Urbanism and Conservation are about stewardship, awareness, and thoughtful habitation.
Please exercise consideration for the physical and social environment around you while using the studios.
It is neither reasonable nor fair to place the burden of guessing whether an item on the floor is trash or
process work upon members of the custodial staff. Respect custodial staff and their mandate to clean the
building's public spaces only (and not the studios).

House Rules:

- No smoking.
- No sleeping in the studio.
- Music is restricted to earphone listening only.
- Keep the studio clean and take care of your equipment. No graffiti.
- Take care of each other.

Reduce, recycle, and reuse:

- Keep the creation of waste to a minimum through thoughtful decisions regarding model size, etc. Keep the size of models small to reduce quantity of materials used. As much as possible, recycle and reuse materials.
- Compress paper remnants and drawings into piles for reuse.
- Create a shared area for storing discarded but reusable model-making materials; note that this space should pose no hazard to others.
- Keep material out of the garbage that can be recycled. This includes model materials, food containers, drawing paper, cut-offs etc. These can be safely recycled in the wood and metal recycling room or by yourself in your next project.
- Use recyclable materials. Avoid Styrofoam and other toxic materials.
- Consider building your models so that they are easily demountable. This will make for easy reuse in later projects.
- Turn off your studio lamp when you are not at your desk. Use Compact Florescent or LED bulbs. (The risk of fire from these bulbs is also much lower).

Studio Maintenance

- Furniture must not be moved or removed. Students are required to clean-up after reviews and return things to the proper locations.
- Alcoves must remain clean and available for common uses such as pin ups.
- Studios are to be tidied regularly. Individual workspaces must be kept free of debris. Tables must be devoid of clutter, bags and coats, or food and drink. Use lockers for storage.
- Remove obvious garbage daily from table surfaces and chairs. Sweep between aisles and under tables regularly.
- Remove models from the school immediately after they are graded if you intend to keep them. If you are not keeping your model, disassemble it so it can be recycled.
- It is neither reasonable nor fair to ask the custodial staff to guess whether an item on the floor has been discarded or is a precious process-sketch. Respect custodial staff and their mandate to clean the building's public spaces only (and not the studios).
- Only bring as much material as you will need into the studio space. Stockpiling eventually leads to massive waste.
- Remove all garbage from your workstation immediately.
- Do not throw dangerous or hazardous materials (e.g. broken glass) in the garbage cans. Recycling bins are provided only for disposing typical items (e.g. soda cans).
- Collectively organize a schedule to take the garbage bin to the Street for emptying once a day.
- Students must remove all materials by date posted in studios each term. All remaining items will be discarded after this date. Drawings, models, supplies, or personal effects may not be stored in the Architecture Building between terms.

These are just a few ideas to start you thinking about building in a more environmentally sensitive manner. In addition, these practices should save you money as well. If you have other great ideas, get together and discuss them. Share your ideas on how we can make studio a more sustainable place.

SECURITY AND SAFETY

For your health and safety and in keeping with the School's commitment to environmental stewardship, the School insists on responsible practices in the studio. Aerosol spray paints, aerosol fixatives and / or aerosol adhesives, pressurized containers, and the use of any other toxic material, glues, resins, or other chemicals, are strictly forbidden inside the School including stairwells and basement. Additionally, _student projects containing aerosols or toxic materials will not be accepted or evaluated whether these were made in the building, outside the building, or off-campus._ If you are unsure whether a material is toxic or not,

use common sense. A material with a strong odor is likely highly toxic. Off-gassing fumes are distributed throughout the building through ducts, adversely affecting all occupants.

The following are also forbidden:
Open flames; soldering; power tools outside of a supervised workshop; extension cords (CSA approved power bars/surge suppressors may be used); smoking; vandalism (as defined by the municipality of Ottawa); obstructing aisles, walkways, corridors, doorways, stairwells and fire hose cabinets clear at any time; parking bicycles in the building; creating tripping hazards, fire hazards or excessive dust and noise.

First aid kits are found throughout the School. Alert the Instructor (during class hours) or call University Security (after hours) if an accident occurs or emergency arises.

Students are asked to take precaution when working after hours. Call the University Security (telephone extension 4444) if you see any suspicious activity and/or feel insecure in the studio or on campus. Identify the location of first aid kits, fire exits, fire alarms, and security telephones. Carleton Foot Patrol offers "safe-walk" services: http://cusaonline.ca/footpatrol .

Exercise caution when working in studio. Set up a comfortable and well-lit workspace. Store your materials safely in lockers (which must be placed horizontally). Wear proper protective gear (e.g. gloves and safety goggles) for any tasks that require the snapping, cutting, or breaking of materials. *Do not perform dangerous tasks at your desk*; instead, use the model assembly room in the Architecture Building. *Power tools and hazardous materials are not permitted in studios and classrooms*. Students may not hang, install, or attach any materials (including models) to the walls, mechanical ducts, or other surfaces of Azrieli Pavilion. If you spot hazardous materials or potentially unsafe conditions in the Azrieli Pavilion or elsewhere, then notify the Studio Coordinator.

For additional information, refer to the Carleton Environmental Health and Safety website: http://www.carleton.ca/ehs/.

ACCREDITATION AND PROFESSIONAL EXPERIENCE

In Canada, all provincial associations recommend a degree from an accredited professional degree program as a prerequisite for licensure. The Canadian Architectural Certification Board (CACB), which is the sole agency authorized to accredit Canadian professional degree programs in architecture, recognizes two types of accredited degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a five-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Masters degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Student Performance Criteria
For the purposes of accreditation, graduating students must demonstrate *understanding* or *ability* in the student performance criteria listed below, according to an established sequence. The 24 SPCs are as follows:
- **A1. Design Theories, Precedents, and Methods**
  The student must demonstrate an *ability* to articulate a design process grounded in theory and practice, an understanding of design principles and methods, and the critical analysis of architectural precedents.
- **A2. Design Skills**
  The student must demonstrate an *ability* to apply design theories, methods, and precedents to the conception, configuration, and design of buildings, spaces, building elements, and tectonic components.

- **A3. Design Tools**
  The student must demonstrate an *ability* to use the broad range of design tools available to the architectural discipline, including a range of techniques for two-dimensional and three-dimensional representation, computational design, modeling, simulation, and fabrication.
- **A4. Program Analysis**
  The student must demonstrate an *ability* to analyze and respond to a complex program for an architectural project that accounts for client and user needs, appropriate precedents, space and equipment requirements, the relevant laws, and site selection and design assessment criteria.
- **A5. Site Context and Design**
  The student must demonstrate an *ability* to analyze and respond to local site characteristics, including urban, non-urban, and regulatory contexts; topography; ecological systems; climate; and building orientation in the development of an architectural design project.
- **A6. Urban Design**
  The student must demonstrate an *ability* to analyze and respond to the larger urban context where architecture is situated; its developmental patterning and spatial morphologies; the infrastructural, environmental, and ecological systems; to understand the regulatory instruments that govern this context; the broader implications of architectural design decisions on the evolution of cities; and the impact of urbanism on design.
- **A7. Detail Design**
  The student must demonstrate an *ability* to assess, as an integral part of design, the appropriate combinations of materials, components, and assemblies in the development of detailed architectural elements through drawing, modeling, and/or full-scale prototypes.
- **A8. Design Documentation**
  The student must demonstrate an *ability* to document and present the outcome of a design project using the broad range of architectural media, including documentation for the purposes of construction, drawings, and specifications.

B. Culture, Communications, and Critical Thinking (Five SPCs):
- **B1. Critical Thinking and Communication**
  The student must demonstrate an *ability* to raise clear and precise questions; record, assess, and comparatively evaluate information; synthesize research findings and test potential alternative outcomes against relevant criteria and standards; reach well-supported conclusions related to a specific project or assignment; and write, speak, and use visual media effectively to appropriately communicate on subject matter related to the architectural discipline within the profession and with the general public.
- **B2. Architectural History**
  The student must have an *understanding* of the history of architecture and urban design in regard to cultural, political, ecological, and technological factors that have influenced their development.
- **B3. Architectural Theory**
  The student must have an *understanding* of conceptual and theoretical frameworks and how they have shaped architecture and urban design.
- **B4. Cultural Diversity and Global Perspectives**
  The student must have an *understanding* of the diverse needs, values, behavioural norms, and social/spatial patterns that characterize different global cultures and individuals and the implications of diversity on the societal roles and responsibilities of architects.
- **B5. Ecological Systems**
  The student must have an *understanding* of the broader ecologies that inform the design of buildings and their systems and of the interactions among these ecologies and design decisions.

C. Technical Knowledge (Five SPCs):
- **C1. Regulatory Systems**
  The student must have an *understanding* of the applicable building codes, regulations, and standards for a given building and site, including universal design standards and the principles that inform the design and selection of life-safety systems.

- **C2. Materials**
  The student must have an *understanding* of the basic principles used in the appropriate selection and application of architectural materials as it relates to fundamental performance, aesthetics, durability, energy, resources, and environmental impact.
- **C3. Structural Systems**
  The student must have an *understanding* of the principles of structural behavior in withstanding gravitational, seismic, and lateral forces, including the selection and application of appropriate structural systems.
- **C4. Envelope Systems**
  The student must have an *understanding* of the basic principles used in the design of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, durability, energy, material resources, and environmental impact.
- **C5. Environmental Systems**
  The student must have an *understanding* of the basic principles that inform the design of passive and active environmental modification and building service systems, the issues involved in the coordination of these systems in a building, energy use and appropriate tools for performance assessment, and the codes and regulations that govern their application in buildings.

D: Comprehensive Design (One SPC):
- **D1. Comprehensive Design**
  The student must demonstrate an *ability* to produce an architectural design based on a concept, a building program, and a site which broadly integrates contextual factors, structural and environmental systems, building envelopes and assemblies, regulatory requirements, and environmental stewardship.

E: Professional Practice (Five SPCs):
- **E1. The Architectural Profession**
  The student must have an *understanding* of the organization of the profession, the Architects Act(s) and its regulations, the role of regulatory bodies, the paths to licensure including internship, and the reciprocal rights and responsibilities of interns and employers.
- **E2. Ethical and Legal Responsibilities**
  The student must have an *understanding* of the ethical issues involved in the formation of professional judgment; the architect's legal responsibility under the laws, codes, regulations, and contracts common to the practice of architecture; intellectual property rights; and the role of advocacy in relation to environmental, social, and cultural issues.
- **E3. Modes of Practice**
  The student must have an *understanding* of the basic principles and types of practice organization, including financial management, business planning, entrepreneurship, marketing, negotiation, project management, and risk mitigation, as well as an understanding of trends that affect the practice.
- **E4. Professional Contracts**
  The student must have an *understanding* of the various contracts common to the practice of architecture.
- **E5. Project Management**
  The student must have an *understanding* of the relationships among key stakeholders in the design process; the methods for selecting consultants and assembling teams; building economics and cost control strategies; the development of work plans and project schedules; and project delivery methods.

Specifically, this course meets the following criteria: A1, A2, A3, A4, A5, A8, B1, C2

Please note: This course outline is subject to change.