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# ARCH 113
# VISUAL AND DIGITAL MEDIA 2

## WINTER 2018

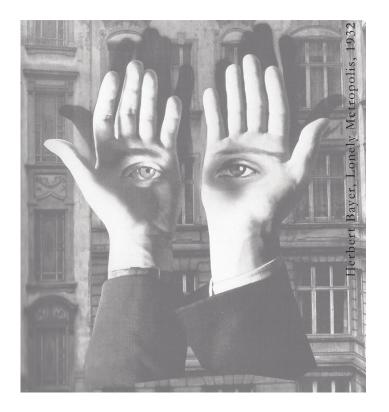Teaching Assistants:
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**FRIDAYS**

Lecture        9:30-10:30

Tutorial       10:45-12:45

Lab            13:45-17:45

Herbert Bayer, Lonely Metropolis, 1932

This is a course about establishing good habits and conceptual frameworks regarding architectural (digital) representation. It is about thinking through spatial questions using architectural (digital) representation. It is about developing disciplines that will serve you far into your architectural careers.

ARCH 113 introduces techniques of digital architectural representation for the purpose of visually communicating spatial ideas and architectural design concepts. During the term we will frame the relationships between modes of visualization, their historical and theoretical contexts, and how they might be executed. The course traces two parallel trajectories - the acquisition of skills related to specific techniques and the interrogation of ideas that have been, or might be, supported by those techniques as well as the inherent biases that each contain.

Various categories of architectural representational techniques will be introduced in weekly one-hour lectures, followed by intensive lab-based tutorials and weekly assignments focused on digital skill acquisition. The term will be punctuated by a series of weekly exercises, which constitutes one term long project constructed to expose and immerse you in the cultures of architectural (digital) representation. By establishing a strong understanding of the histories and theories of architectural representation coupled with the introduction of techniques and strategies, the aim of ARCH 113 is to contextualize various modes of representation and to provide students with the disciplinary tools and technical skill sets to more fully exploit the possibilities of contemporary visualization techniques moving forward. We seek to develop an understanding of the relationship of specific digital tools to one another and between digital tools and design thinking.

## Goals + Objectives

Our academic and professional lives demand a fluency in digital media. A more abstract, inclusive literacy does not just ask what operations are available in this year's latest technology, but seeks to build an attitude or approach towards representation generally and digital representation specifically. Approached this way, there is plenty to learn about design thinking through digital media and not just being trained on the latest software. As such this course is not a training course per se, though you will learn specific skills, but rather about developing design thinking through digital media and representation techniques. It is about how to engage digital media regardless of the specific tool.

The course will expose students to the following objectives and successful completion of the course will demand that you skillfully demonstrate knowledge and engagement with the objectives listed below.

- To build an adeptness and critical intuition when working with architectural representation techniques and with digital design applications. (When to use what pieces of software and what modes of representation should be used to tell your specific design story).
- To learn how to build digital design applications into an iterative workflow.
- To build and foster an immersion into the culture of (digital) architectural representation.
- To establish habits for successful and fluid workflows and collaboration (for example, how to keep an organized digital archive).
- To build a familiarity and dexterity with digital design applications.
- To develop the fundamentals of 2D and 3D CAD (Computer Aided Design) (drawing, modeling, 'rendering').
- To develop the fundaments of digital graphics and layout (raster vs vector, color space, screen vs print space)
- To develop a familiarity with standard design applications to enable further life-long engagement.
- To learn how to learn! This course will improve your capacity to understand and apply whatever software you my encounter later.

## Resources

The course will rely heavily on Rhinoceros 5, Maxwell Render Suite, and the whole suite of Adobe Creative Cloud, especially Adobe Photoshop CC, Adobe Illustrator CC, and Adobe InDesign CC. While the course will be taught on the latest versions it is not necessary to have the latest versions yourself - after all, technologies are rapidly changing and what is the status quo today will be out of date tomorrow. However, used mindfully these tools can be very powerful and the skills that you acquire through them will be applicable and prepare you for a range of other software suites.

There is no required textbook for this course since there is an abundance of online learning resources available. However, during each lecture a series of resources will be presented.

One of the greatest resources available to you while in university is your peer network - studio culture makes this even more valuable. Your peers should be your first stop when you have a question, when you have a useful tip or when you need an answer quickly. However, should you have questions which your peers cannot answer, your TAs will have office hours during which time, and only during this time, you will be able to ask questions outside of class.  While your TAs are extremely valuable resources they are full time architectural students as well, so please be mindful of their time. The time at which these hours will occur will be scheduled in the first week of class.

Should you have questions concerning the course, offices hours will take place immediately following class. Should you require a more immediate response or have a concern outside of class time, email is the best
your instructor. Please include ARCH 113 in the subject and your instructor will respond to your email within 24 hours.                                                                                                      way to contact

Online Visual References
http://www.aaschool.ac.uk/PORTFOLIO/PROJECTSREVIEW/index.php
http://socks-studio.com/
http://afasiaarchzine.com/
http://rndrd.com/
http://architizer.com/
http://archdaily.com/
Online Tutorials
http://www.lynda.com
Texts
Bassler, Bruce L. Architectural Graphic Standards: Student Edition. Hoboken, NJ: John Wiley & Sons, 2008.
Ching, Francis D. K., Barry Onouye, and Douglas Zuberbuhler. Building Structures Illustrated. Hoboken, NJ: John Wiley & Sons, 2009.
Ching, Francis D. K. Architecture Form, Space, and Order 4th Ed. Hoboken, NJ: John Wiley & Sons, 2009.
Ching, Francis D. K. Architectural Graphics 4th Ed. Hoboken, NJ: John Wiley & Sons, 2003.
McMurrough, Julia. Materials, Structures, and Standards: All the Details Architects Need to Know But Can Never. Find. Rockport Publishers, 2006.

Weekly Course Organization

<u>Lectures - Friday 9:30 till 10:30</u>
The beginning of each class will be devoted to introducing and positioning key architectural representational concepts and techniques. Each week will focus on a specific architectural representation troupe - plan, section, axonometric, composite drawings, etc. This will help us setup long term trajectories and position the work that we are undertaking within the history of the discipline's representational tools and establish a common set of "touch points" for the weekly labs.

<u>Tutorials - Friday 10:45 till 12:45</u>
The course is envisioned as a hands on learning lab, where we will focus on understanding concepts and developing skills through a series of weekly exercises. Skills will be introduced in small group sections, where you will be introduced to specific methods and tools of architectural digital representation.

The class will be split up into three sections to help facilitate the delivery of technical content and allow for you to ask more specific questions. Sections will be randomly assignment and instructors will rotate.

While the tutorials will give you a basic familiarity with the software and will give you enough orientation to complete the weekly assignments, there is an expectation that you will move beyond the basics of the software as introduced.

<u>Labs - Friday 13:45 till 17:45</u>
Weekly lab exercises will be tightly coupled to the weekly concepts introduced in the lecture and will serve as the framework for the tutorial sessions. These exercises are constructed to be completed during the time allocated to the lab - we know that your time is extremely valuable and has many pressures. However, beyond whatever you complete in the lab session, you should plan on spending a few hours over a few sittings on each exercise - time for experimentation and time to complete the assignment. Your instructor and TAs will be available in the studio space during the lab session to answer questions that you may have. View these as architectural calisthenics -exercises to get your digital skills up to speed and in shape.

Exercises will be cumulative and allow for deep engagement and experimentation with various representational techniques as well as introducing you to architectural projects through drawing. Ideas tested in this setting will serve you well as you move forward with future endeavors, helping you determine when, for example, to execute a photo realistic rendering or when a collage might do, and importantly what historical lineages each of these techniques is participating in and what message the medium is communicating.

Official Business

Participation
One of the principles of ARCH 113 Visual and Digital Media 2 is that everyone be involved in a critical and experimental dialogue with regard to their own work and the work of others. Students are expected to attend both lectures and tutorials, and to be working in the studio during lab, on lab exercises. Students are also expected to attend and participate in all scheduled events and reviews. Absence from the class during these times would be unfortunate, and repeated absences will be sufficient grounds for withdrawal from the course.

Apart from attendance, participation in all in-class activities is an important part of the course. Participation includes the cultivation of a critical and productive workshop atmosphere through active engagement and curiosity. It is expected that all students are engaged in lectures, tutorials, and lab elements. Class time is organized to include different activities requiring different levels of interaction and participation. Both the instructor and students bear the responsibility to create a dynamic class environment and share in their enthusiasm for the topic. The class will encourage an open dialogue about the learning process and the satisfaction of the main pedagogical objectives.

The class will demand consistent work and a considerable level of graphic production. The exercises to be developed are time consuming, require serious commitment, and a high level of organization. Students are expected to work on their assignments during lab time, and while the exercises are constructed to be completed in the time allocated to the lab, work outside of class will be required.

Deadlines + Extensions
ARCH113 project deadlines can only be extended in the case of illness and incapacity. Requests for such extensions must be made before the project deadline, as soon as is possible, using the "Request for Extension" form available from Donna Woolcott. Your request must be accompanied by a medical certificate when necessary, and must be submitted to the ARCH113 Instructor directly, and in person during class time.

Late submissions without approved extensions will lose 10% of project value per day.

Last minute printing problems, lost, or corrupt files will not be accepted as an excuse for late project submissions. You must have a system of regularly backing up your files.

All projects in this course must be presented physically regardless of your preferred working methodology. Lab assignments will have a digital submission (unless otherwise specified).

Submissions

Digital files are required to accompany all major project submissions - however, they must be accompanied by paper printouts or formatted physical panels unless otherwise specified. Specific lists of the requirements of each project submission will be included with individual project handouts.

Digital submissions will be the primary means of collecting work, and we will be using LEARN to do so.
Refer to schedule on page 10 for due dates. Late submissions will be penalized 10% of the assigned value of the exercise per day.

At the end of the term you will be required to submit your entire course folder for the term. The organization of this folder will be assessed and graded as part of your final grade. All projects and assignments should be contained within this folder with process and final work clearly identified.

Reviews

Please note that reviews are instructive and not evaluative. It is therefore important for each individual to participate in both the review of their own work, and in the reviews of the work of fellow students. Participation in course reviews, lectures, tutorials and labs is mandatory.

Evaluation

Each assignment/project throughout the term will be assessed on the following basis:

- ambition, clarity and appropriateness of the ideas addressed within the work
- invention, innovation and vision embodied within the work
- criticality and integration of digital creation/representation strategies
- the effectiveness of project documentation and the capacity of the work to communicate the projects intentions.
- precision and craft of physical/digital artifacts created.

Office Hours

Teaching Assistants will be holding weekly office hours in RM 3014

Jeremy Jeong:      Monday 12:30pm-2:00pm, Wednesday 10:30am-12:00pm

Anisha Sankar:     Tuesday 12:00pm-1:30pm, Thursday 10:30am-12:00pm

The format of the course will provide students with verbal feedback on their work on a weekly / bi-weekly basis. Students may contact the instructor for an informal evaluation of their progress at any time during the semester. The following will serve as basis for evaluation:

90-100        Outstanding Work

Work reflects outstanding achievement in both content and execution. Work far surpasses the given requirements of the course and elevates the caliber of the discourse in the course.

80-90        Excellent Work

Work reflects very high achievement in both content and execution, exceeding the expectation of the course.

70-80        Good Work

Work reflects high achievement in both content and execution, excelling beyond the given requirements of the assignment and/or course.

60-70        Adequate Work.

Work fulfills the given requirements of the assignment and/or course.

50-60        Poor Work

Work is less than satisfactory and minimally or incompletely fulfills the requirements of the assignment and/or course.

Below 50        Inadequate Work

Work fulfills few if any of the requirements of the assignment and/or course.

<u>Term Evaluation</u>

| Participation | 10% |
| Lab Exercises (01-11) | 70% (6.36% each) |
| Final Assignment (w/ Arch 173) | 20% |
| Total | 100% |

## 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. Refer to Academic Integrity website (https://uwaterloo.ca/academic-integrity/) for details.

## 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. Please read "Policy 70, Student Petitions and Grievances, Section 4", (https://uwaterloo.ca/secretariat/policies-procedures- guidelines/policy-70) 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 (see above) to avoid committing an academic offense, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (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 offenses and types of penalties, students should refer to "Policy 71, Student Discipline", (https://uwaterloo.ca/secretariat/policies-procedures- guidelines/policy-71) For typical penalties please see "Guidelines for the Assessment of Penalties":
(https://uwaterloo.ca/secretariat/policies-procedures- guidelines/guidelines/guidelines-assessment-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 they have grounds for an appeal should refer to "Policy 72 (Student Appeals)" www.adm.uwaterloo.ca/infosec/Policies/policy72. html

## Students with disabilities

AccessAbility Services (http://uwaterloo.ca/disability-services/), located in the new addition to 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 the office at the beginning of each academic term.

## Turnitin.com

Text matching software (Turnitin®) will be used to screen assignments in this course. This is being done to verify that use of all materials and sources in assignments is documented. Students will be given an option if they do not want to have their assignment screened by Turnitin®. In the first week of the term, details will be provided about arrangements and alternatives for the use of Turnitin® in this course.

## Communication

During the course of the term, faculty may need to send communications to ARCH 113 students. It is required that you confirm your current active email address with the Undergraduate Student Service Coordinator, during the first week of class.

## Advice

### Be Patient and Considerate.
Whether with other students, schoolmates, or even teaching assistants, please be mindful of the obligations, and concerns of others. Everyone wishes to perform well and it can be possible – and not at the expense of others.

### Always back up your work.
Make it a habit to save your work every half hour if possible (on more than one type of media).

### Always work from the hard drive.
Working off a USB, temporary servers, or remote disk space is unstable at best and is often the cause of a program crashing.

### Obey the rules as outlined by the ACM Staff.
Failure to adhere to the rules may result in suspension of computer lab facilities. Food and drink in the area may lead to accidents that may damage university equipment or prompt data loss. Any reports by ACM staff of offenders will result in 5% deduction from final term marks. Evidence of multiple offenders may also result in the barring of the class altogether from computer lab privileges.

### Pirated software is not acceptable.
Not only is using cracked or pirated software illegal, it is also grounds for failure in the course according to university policy. In addition to this, pirated software fails to have some functions of the legitimate versions or even worse, have incompatibility issues. Projects exhibiting signs of piracy shall be dealt with accordingly.

### Plagiarism is against university policy.
As with the pirated software rule, intellectual property theft is quickly becoming prevalent in the electronic age. There shall be instance where material generated by students shall be available to classmates, but realize that you may NOT submit someone else's work as your own. All assets (images, models, texture maps, etc.) should be credited, given user permissions, or are authored by the student in question. Please refer to the Undergraduate Calendar's Academic Discipline section for guidelines on crediting and plagiarism.

### Be PREPARED and EQUIPPED.
Though not mandatory it is helpful to have a few items ready for class and the production of assignments and projects. Hardware should include: a mouse and a USB hard-drive (that can handle file transfers of projects and back-ups). Students should also set aside finances for printing, plotting, and fabricating.

SCHEDULE

| | LECTURE | TUTORIAL | EXERCISE | DUE DATE |
|---|---|---|---|---|
| Week 01<br>Friday January 05 | Introduction | Vectors, Rasters<br>(Rhino, AI, PSD) | EX01 Translate | Friday January 5<br>@ 8:00pm |
| Week 02<br>Friday January 12 | Plan | 2D CAD (Rhino) | EX02 Draft | Friday January 12<br>@ 8:00pm |
| Week 03<br>Friday January 19 | Section | Vectors<br>(Rhino + AI+ InDesign) | EX03 Present | Friday January 19<br>@ 8:00pm |
| Week 04<br>Friday January 26 | Axonometric | 3D Modeling I<br>(Rhino + AI) | EX04 Extrude | Friday January 26<br>@ 8:00pm |
| Week 05<br>Friday February 02 | Diagram | Lines and Rasters I<br>(Rhino +AI+ PSD) | EX05 Diagram | Friday February 02<br>@ 8:00pm |
| Week 06<br>Friday February 09 | Perspective | Render I (PSD +<br>Maxwell) | EX06 Illuminate | Friday February 09<br>@ 8:00pm |
| Week 07<br>Friday February 16 | Material | Render II(PSD +<br>Maxwell) | EX07 Express | Friday February 16<br>@ 8:00pm |
| Week 08<br>Friday February 23 | NO CLASS READING WEEK | | | |
| Week 09<br>Thursday March 01 | Material II | Render III (PSD +<br>Maxwell) | EX08 Texture | Thursday March 01<br>@ 5:00pm |
| Week 10<br>Friday March 09 | Collage | 3D Modeling II<br>(Rhino+PSD+Maxwell) | EX09 Assemble | Friday March 23<br>@ 9:30am |
| Week 11<br>Friday March 16 | Composite | Lines and Rasters II<br>(Rhino, AI + PSD) | EX10 Compose | Friday March 23<br>@ 9:30am |
| Week 12<br>Friday March 23 | Presentation | Communication<br>(InDesign) | EX11 Curate | Friday April 04<br>@ 9:30am |
| Week 13<br>Wednesday April 04 | LAST DAY OF CLASS<br>IN CLASS EXHIBITION (PIN-UP) AND DISCUSSION | | | |