

# "Material Matters - Global Perspectives and Local Practices"

PI: Susanne Elisabeth Trumpf

Presenter: How Yu Chung

Division of Landscape Architecture

Department of Architecture

The University of Hong Kong - Teaching and Learning Festival

Focus: Critical thinking skills, Communication skills, Research skills

## Course Introduction:

In an era of mass consumption, where global goods are acquired effortlessly, **CCGL9076 - Material Matters examines the impacts of material origins, processes and ecological footprints, and aligning with Sustainable Development Goals (SDGs) for responsible consumption and production.** Through field trips, lectures with industry leaders, and hands-on activities and assignments, students gain a full perspective on the world from a material perspective, addressing contentious issues, including labor conditions in supply chains and environmental costs of material lifecycles.

Students engage with the TAL-L material library (<https://tal-materials.org/>) for hands-on, research-based learning, grounding global concepts in local material practices in Hong Kong. The course aims to help students foster a transdisciplinary mindset to make better sense of the material problems they will face ahead in their careers, preparing them to collaborate on and tackle pressing environmental and societal challenges with informed, creative, and responsible approaches. **Students' submissions—ranging from interviews, architectural drawings, mind-maps, journal entries, to image strips—demonstrate diverse multisensory approaches to capturing material narratives.**

Therefore, a key innovation of the course is the use of instructional flash cards and sketch-based assignments to enhance visual proficiency and interpersonal communication skills, particularly for students unaccustomed to site-based studio work. Recognizing diverse backgrounds, the course employs hands-on tutorials to help students foster their observation and visual communication skills.

**The coursework reintroduces students to the practice of trusting their instincts, curiosities, and critical thinking skills, linking together their experiences and knowledge to make better solutions for our cities in the future.**

## Photography as Observation

**Site Photography**

**Camera as Eyes**

Whether you're a professional or a casual enthusiast, the objective of photography is to capture referential details that can serve as a resource for your future work.

Your memories of a site will fade after a site visit, so be sure to take photos of a variety of subjects.

**Essential Tips**

- Bring convenient tools such as a selfie stick, portable tripod, or aerial drone, to get images statically and dynamically.
- Hold the camera parallel to the scene to take more lifelike photos.
- Take photos of things you normally wouldn't. Think of your camera as a notebook, documenting information and not just images.
- Following the general 'rule of thirds', use built-in grids to frame your photos with the intersections and parts.
- Play around with the exposure and lens length of your camera.
- Consider taking videos along with photos so you can refer to your site spatially. You can always take screenshots of your videos.

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Avoiding the disturbance of site environments through direct extractions, students can photograph site elements to record memories, events, and points of interest.



The course encourage students to record their impressions of a site from every angle - the environmental, social, historical, etc. - to get a broad understanding of the sense of place.



Students learn the importance of simple but effective photographic techniques, like lighting, exposure, and layout as a way of documenting samples.



Students take geotagged photos of material pollutions, which inform their analysis of the materials' footprint and how they impact the local environment.

## Sketching as Comprehension

**Site Sketching**

**Sketching Tools**

- Pen/Pencil (Graphite/Charcoal)
- Field Notebook/Clipboard

**How to 5 Minute Sketch**

By utilizing simple shapes, hatching, shading, and line weight, you can effectively capture salient details of a site or object's essence within the first glance efficiently.

**Goal of Sketching**

One of the advantages of sketching is expressing ideas quickly. While it is easier to take a photograph by using simple shapes and shading, you can essentially articulate what you find fascinating about a site or object. You can incorporate personal quantitative and qualitative assessments into what we see, capturing something's essence for the sake of documentation.

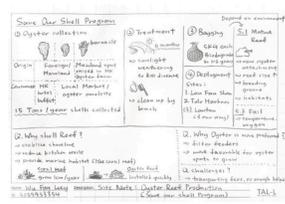
**Hatches**

Practice using different forms of hatching to capture complex textures in real life objects and materials.

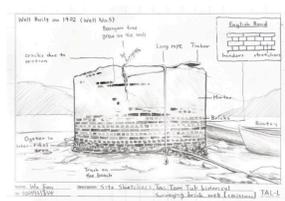
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Photographs capture many details, but sketches can focus our thoughts and impressions of a site, promoting a deeper presence and experience.



Student work example of site notes. Factual information is presented visually, allowing students to organize and compartmentalize the information they gain on site.



Student work example of the Tai Tam Tuk brick walls, showcasing their personal observation and research on the history of the site's human construction.



Students sketch together in the vast environment of Tai Tam Reservoir, individually making their own observations while sharing the experience with their classmates.

## Discussion as Synthesis

**Debating Materials**

**Vocabulary Words**

**Tactile (adjective):** Relating to the sense of touch.

**Olfactory (adjective):** Relating to the sense of smell.

**Tensile (adjective):** Pertaining to the ability to withstand stretching or pulling forces.

**Compression (noun):** The act of applying pressure or squeezing together.

**Extraction (noun):** The process of obtaining or removing something.

**Composite (noun/adjective):** A composite is an article consisting of more than one material.

**Potential Points of Conversation**

**Material Sources:** Where does something come from? Who invented it? Is it common today? Is it uncommon today? Why?

**Material Sites:** Where is a material usually used? Why or why not? What groups of people usually use this material?

**Material Attributes:** What factors contribute to the material's properties? How do these properties contribute to the material's usefulness? Do these properties increase or decrease material desirability?

**Material Ramifications:** Consider ecology. What is the ecological impact of this material? Consider technology. What technological advancements enable or hinder the existence of this material? Consider humanity. How significant is this material to human society, and why? Consider economics. How valuable is this material? Is it scarce or controversial? Can it be easily regulated? Consider design. How has this material been incorporated into human-made designs? What are its visual and functional impacts?

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A tactile material test challenges students to develop a material vocabulary to articulate different sensations and qualities of various extracted samples.



Students learn about scientific color charts to identify the technical language to describe the hue qualities of their extracted materials.



By engaging in debates, students practice using vocabulary and language gained in this course to articulate their opinions and critiques of material ecologies.



Field trips and conversations with concern groups give a nuanced perspective on material impacts on the environment.

## Sampling as Note-Taking

**Sampling & Measuring**

**Measurement Tools**

- Pen
- Field Notebook/Clipboard
- Digital or Physical Site Drawings
- GPS/Phone
- Measuring Tape

**Sampling Tools**

- Gloves
- Protective Footwear
- Hand shovel
- Zipper bags (min. 25x25cm)
- Glass Pin jars
- Bucket
- Plastic sheets

**Sample Collection and Documentation**

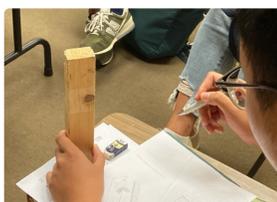
**\*DISCLAIMER:** Sample collection is an invaluable method for conducting analysis on site elements. However, it is crucial to practice respect when gathering artifacts, ensuring that no harm is done to private property and protected areas.

- Take photos of the sample site condition.
- Remove any foreign residue from the surface, such as plastic.
- Collect your sample with appropriate tools, such as a trowel, jar, or gloves, to ensure your safety and sample integrity.
- Seal your containers and label essential information, such as location of extraction, geographical coordinates, date and time of sampling, depth of sampling, and degree of slope.
- After extraction, measure sample data for your experimentation, such as size, volume, and weight.

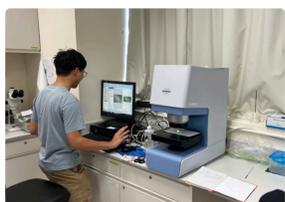
Depending on what you plan to collect, prepare appropriate extraction tools and vessels.

Consider collecting samples of material fragments, rocks, soils, sediments, plants, etc.

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After sampling material artifacts in the urban landscape, students used their sample to inform the basis of their research on material cycles and pathways.



Collaborating with the Department of Earth Sciences, students conducted Fourier Transform Infrared Spectroscopy (FTIR) tests to analyse their samples' composition.



Recycled material samples can be used for creating new materials. Students are processing oyster shells from Lau Fau Shan for their recycled material prototypes.



The TAL-L Library is a resource that students can use to show the wide range of material samples available in Hong Kong, inspiring their own investigations.

## Experience as Information

**Site Documentation Essentials**

**Use Your Five Senses (and More)**

**What do you smell?** Pay attention to pleasant and unpleasant scents, whether fresh, dirty, fragrant, or chemical. Use your instinct to identify the source.

**What do you see?** Look from different angles. Change perspective. Get close. Go far. Look up. Look down.

**What do you hear?** Listen deeply and carefully. Notice if the sounds are loud, quiet, pleasing, or disturbing. Identify their origins and intensity.

**What do you touch?** Don't be afraid to get dirty. Hold, flip, turn, and uncover things around you. Understand the textures and other tactile properties.

**What do you feel?** Reflect on how environmental conditions impact your subjective experience. Document factors that influence your comfort, mood, safety and aesthetics.

**What do you wonder?** Embrace curiosity and ask questions. After observing a site, note down any lingering thoughts or inquiries. No question is too trivial.

**Document with Various Media**

Experiencing a site in reality is a sensory overload, so don't expect to remember every sense and idea from your trip. Document everything and anything objective and subjective, quantitative and qualitative.

Use different media to record various aspects of your visit for future reference.

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Students get hands-on by removing concrete poles used in oyster farming, deeply experiencing the impact of materials for themselves through action.



The Tai Tam Reservoir during huge flooding reveals Hong Kong's climatic realities. Students experience the humidity, intensity, and scale of Hong Kong's infrastructures in person.



Joining The Nature Conservancy at Ha Pak Nai, students can be stimulated by environmental conditions to enhance the learning they gain in the classroom.



The heat of the sun, the smells of the WENT landfill, and the sounds of nature fill the atmosphere of Ha Pak Nai, a site of historical oyster production.

## Presentation as Expertise

**Presentation Skills**

**The Power of Presentation**

Regardless of how much knowledge you possess on a topic, the ability to effectively communicate your ideas to an audience in a convincing manner is the ultimate demonstration of your mastery. Thus, a presentation should not simply relay information verbatim, but craft a powerful argument that persuades a group of people.

**Body Language**

Exhibiting confidence and enthusiasm will help you maintain your audience's attention.

- Project your voice as to command attention.
- Establish presence with eye contact and gestures to appeal to your audience.
- Practice good posture and composure to promote your self-confidence and authority.

**Audience Engagement**

Refrain from merely stating information to your audience. It is easy to lose people's attention.

- Ask direct questions to your audience.
- Implement activities. Find ways to allow audience to experience what you talk about such as small games, tests, or independent exercises.
- Use audience polls from online resources.

**Practice Your Presentation**

Try different methods of practicing your speech besides rote memorization. Record and time your presentation or rehearse it with a friend or other groupmates.

**Knowledge and Expertise**

Being well-educated about a topic has little value unless you can effectively convey your knowledge fluently and intentionally to an audience. A presentation read directly from paper is never interesting. Study your information well to speak about the topic naturally and fluently.

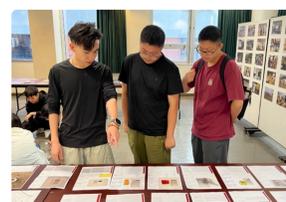
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Students showcase their work, learning how to incorporate physical artifacts and creations as communication tools for presenting to guests and critics.



Students practice efficient communication skills by mirroring TED talks, focusing on stage presence, body language, and language delivery.



Students present in gallery style settings, emphasising the importance of interpersonal dialogue to showcase their findings and products.



Industry leaders attend students' final research proposal presentations, allowing them to engage with real issues and topics that are important in the professional world.