EAT-DESIGN-BUILD

INSTRUCTOR
FINGRUT, Adam
adam.fingrut@cuhk.edu.hk

RESEARCH QUESTION

"How can prototyping small [objects, assemblies, thresholds and spaces] at 1:1 scale inform architecture of large [spaces, circulations, environments, and envelopes]?"

EAT-DESIGN-BUILD envisions future architecture and design possibilities as a practice-based, research-driven, entrepreneurial experience for emerging professionals. We will examine the complex issues surrounding food, gathering, dining, and waste in the context of making, fabricating, assembling, deploying, and experiencing. Our final building project is a Food and Beverage (F&B) building for dense urban contexts such as Hong Kong or Tokyo. This studio provides students with the time and freedom to explore and develop their personal design interests, enhance technical skills (making, drawing, photography, cinematography), and build confidence in the development/presentation of an architectural argument supported by design research outcomes.

"*The art of architecture, as with the arts of alchemy and cuisine is thinking with things rather than thinking about things.*" Frascari (2001)

The studio adopts food and culinary arts as a broad theme for design, consumption, and inhabitation. It reflects on the semiotic relationship between food and architecture, considers food as design material, and the act of consumption as a platform for imagining architectural scenarios. Architecture, like cooking, engages sensuality in the process of making to conceive future works.

As part of prototyping activities, students will research tools, technologies, and translation methods (observation; idea; prototype; test) that satisfy their *tastes*, *interests*, and *experience* development through architectural forces and practical realities (technical/programme). This research provides iterative and rigorous evidence in support of design proposals. It helps students frame their interests, explorations, and present design as imagination, priority, compromise, system, and realities of the built environment.

DESCRIPTION

This studio explores the role of technology and prototyping as a conduit for architectural design and construction methods. A rigorous series of 'making' exercises along with exposure to novel design and communication techniques will guide students toward developing their own architectural vocabulary for deployment at different scales, resolutions, and across media. At the heart of this studio is an interest in the crafting of beautiful drawings, objects, spaces, and buildings – each with their own unique story nested inside a broader design narrative of responsible material use and speculative inhabitation. Activities in this course are supported by a Teaching Development and Language Enhancement Grant (TDLEG) that financially supports costs associated with student prototyping materials.

We will gain exposure to a variety of tools and technology that will provoke students to reconsider their approach toward building design. Hands-on workshops in 3D scanning, AR, VR, computational tools, photography, film, and robotics will be provided alongside immersive visits to cooking and dining environments, exposure to culinary arts, and food preparation techniques. The studio will draw upon a semiotic relationship between culinary arts and architecture *as the careful and deliberate design, configuration, and assembly of materials as part of human experiences that consider ergonomics, heuristics, and quality of space.*

Sustainability, modularity, and economy are critical aspects of this studio and remain a theme throughout the research and design phases. Students will report on their (in)efficient material use, repeatability through modularity/serialism, and reflect on the relationship of work/waste ratio. We will ultimately strive and provide a case toward a minimal waste goal.

As part of our design process, we will observe, experience, and consider different F&B typologies in Hong Kong, and Tokyo. We will examine architecture from a material culture and seek phenomena that students can explore further in their own projects. We will place a special interest in the curation of intangible qualities (colour, smell, temperature, light, airflow, sound), and textures, tactility, softness, transparency, porosity as part of project definition.

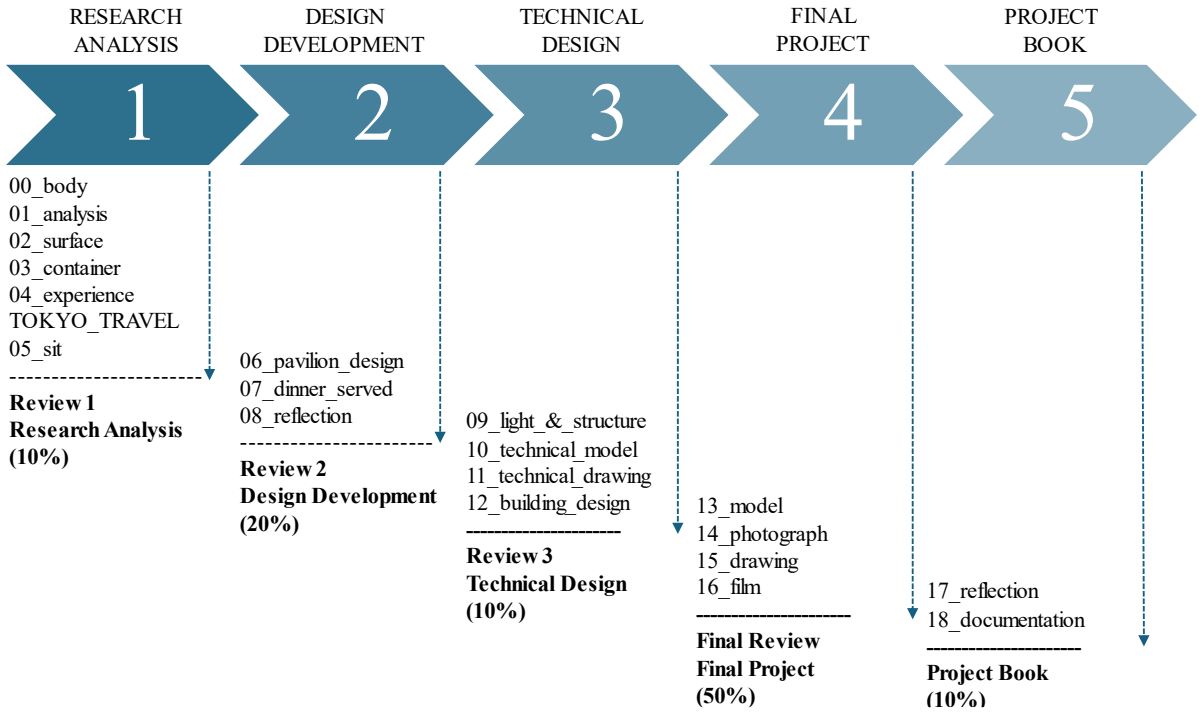
Our design process will involve a series of open-ended design provocations pertaining to 'a dining experience'. In groups, and based on knowledge gained from previous exercises, students will design and develop full scale prototypes. We will create design/build pavilions that bring together objects, surfaces, structure, envelope, and enclosure as part of an architecturally driven dining event constructed by students for invited critics. This process will consider aspects of efficiency, sustainability, modularity as part of the design, and serve as the basis for further architecture proposals.

Students will reflect on their design research and translate knowledge into building design proposals. They will work alongside invited guests and consultants for a F&B Tower – as stacked kitchens, service, and delivery that consider different users and experiences. Students will balance technical advice pertaining to structures, cores, envelopes, client needs, building systems, and safety standards to carve out original design opportunities. Design should draw heavily on student experiences throughout the course, their confidence in exploring a specific architectural vocabulary using material, graphics, models, technical knowledge, and assembly systems. We will heavily emphasize architectural model making, and drawing under three umbrella processes of scanning, designing, and building.

STUDIO OBJECTIVES

- Research, discover, and explore design interests (material, tools, methods, prototypes).
- *Consider* and *develop* complex architecture as an iterative practice.
- *Create* experiences, objects, assemblies, and environments that exhibit qualitative, technical, and quantitative evidence
- *Propose* sustainable Building Design @ 1:100
- *Participate* in an international design competition

The following diagram describes the structure and the assessment criteria for the year.



IMPACT AND SUSTAINABILITY

The studio will advance student learning by providing a multitude of opportunities to observe, design, prototype, test, communicate, and critically reflect on those physical outcomes and haptic experiences. Students will think ambidextrously about design as user, architect, and builder. Successful participation will see students develop confidence with their chosen design tools, create new workflows, ability to present/defend their design positions, and disseminate mature architectural materials. Students will strengthen their capacity to think critically about their original architecture, as part of an evidence-based approach in support of subjective arguments. The design competition will serve as a framework that grounds the studio into real-world contexts and allows students to deploy design ideas into a multitude of architectural outcomes, and formats.

METHODS

"If I want to see things, I do not trust anything else. I put them in front of me, here on paper, to be able to see them. I want to see, and for this I draw. I can see an image only if I draw it."
Frascari (2003)

01_Research Analysis
In this phase students will warm up their drawing and making skills. They will conduct investigations into 1:1 (full scale) design and build activities, gain a better understanding of their prototyping pathways and fabrication methods, and develop their material vocabulary as part of experiencing tactile, visual, and phenomenological objects. Prototypes will gradually increase in size, complexity, and their relationship *to food as design material* and *consumption as programme*. Supported by technical workshops, specialist lectures, and field trips (near and far), we will consider surface

geometries, interfaces, workflows, and *making* exercises that include a myriad of technologies and techniques for the creation of functional objects. We will develop an ambidextrous approach to design/build, iteratively considering calibration and refinement in prototyping lifecycles (design/make/taste/reflect). We will also explore multi-dimensional methods for presenting, defending, and analyzing our work with drawing, diagramming, modelling, photography, and film. These will assist in the building of confidence in craft and help cultivate student design sensibilities, style, and material interests.

02_Design Development
With knowledge and experiences gained from previous activities, students will join in groups to develop a full-scale dining pavilion. This assignment will require students in groups to create an immersive dining experience for 4 guests – including all aspects (food, menu, lighting, surfaces, utensils, enclosure etc.). The studio will coordinate for an ideal site, and consult with experts for safe construction etc. Upon completion of this 1:1 group project, students will have a clear area of how to translate specific aspects (materials, fabrication, assembly methods, structural approaches, genre, motif, modularity, and efficiency) *as part of the research* of their work into building design projects at 1:100.

03_Technical Design
We will break from groupwork and begin a rigorous series of physical modelling activities with an emphasis on translation from previous phases into more technical building designs that examine structure, building systems, envelopes, tectonics, and environments. Our focus will be on 1:100 design and model making for a design competition. This complex programme will require students to consider the needs of various user types, activities, support systems, privacy, security, and safety. The general working method will be “from physical model to drawing” – as study models help to reveal tectonic possibilities; photography and image manipulation helps emphasize desired aspects, and drawing promotes increased resolution, precision, and documentation.

04_Final Project
In this final phase, we will commit to the rigorous development of key architectural drawings (section, elevation, site-plan, plan) as part of an independently driven building proposal and brief. The schedule permits and expects these key drawings to be a major part of ongoing processes, that advance architecture from models into precision documents that are carefully selected to support a design position, priority, and argument. With support from peer reviews, technical, technology, and presentation workshops, students will prepare for their final defence as part of a comprehensive package of physical studies, final models, drawings, images, and architectural media.

DELIVERABLES

Ongoing
Diagrams. Physical Prototypes (Mixed Media/Scales). Study models. 1:100 Final Architectural Model (hand assembled). Drafted Plans/Sections 1:100. Drafted Details and Technical Drawings. PowerPoint Presentations. Photography. Stop Motion Animations. Short Films. Mixed Media.

01_Final
Oral and graphical presentation of relevant materials from above in all formats. The final review is a celebration and exhibition of the overall work produced by students over a 3-day event and will include a diverse cross section of international and regional experts relating to the studio research area.

02_Project Book
Physical/printed and bound portfolio document with a common format across all students within the studio. This will include a written introduction to your overall project position, graphics of your design process, and a comprehensive technology report including design and construction details

LEARNING OUTCOMES

1. **Ability** to create architectural designs that satisfy both aesthetic and technical requirements.
2. **Ability** to generate complex design proposals showing understanding of current architectural issues, originality in the application of subject knowledge and, where appropriate, to test new hypotheses and speculations.
3. **Ability** to evaluate and apply a comprehensive range of visual, oral and written media to test, analyse, critically appraise and explain design proposals.
4. **Ability** to assemble a comprehensive programme for an architecture project, including:
5. **Ability** to respond to natural and built site characteristics in the development of a programme and design of a project.
6. **Ability** to work cooperatively with others in a team setting.
7. **Ability** to discuss architectural ideas with non-architects, to listen objectively to their opinions and to consider those opinions in designing.
8. **Ability** to speak and write effectively on subject matters contained in the professional curriculum in English.
9. **Ability** to use appropriate representational media, such as drawings, models, diagrams, charts, including computer technology, to convey essential design information at each stage of the programming and design process.
10. Understanding of the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.
11. Understanding of the methods of investigation and preparation of the brief for a design project.
12. Awareness of the theories and methods of inquiry that seek to show the relationship between human behaviour and the physical environment.
13. Understanding of the basic principles of sustainable development and architects' responsibilities with respect to the social, economic, and environmental sustainability in architecture and urban design.
14. Understanding of the principles of structural behaviour in withstanding gravity and lateral forces, and the range and appropriate applications of contemporary structural systems.
15. Knowledge of the fine arts as an influence on the quality of architectural design.
16. Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences.

ASSESSMENT SCHEME

0_Studio Drawing Assignment, September
The first week will be reserved for a shared drawing assignment within all studio groups. The drawing provocation will be issued by individual section tutors on the first day of the studio after course selection. The submission will be in a flexible format and all works will be part of an exhibition in the SOA Atrium.

1_Reviews (40%)
1. Review 1, October 2024 (10%) –Research Analysis
2. Review 2, December 2024 (20%) – Design Development

3. Review 3, March 2025 (10%) – Technical Design

2_Final Review (50%)
1. Final Project Presentation, May 2025 (50%) – Final Project

3_Project Book (10%)
1. Project Book has three parts: Position / Technology Report / Process.
2. To be started at the beginning of the year and reviewed throughout.

Each assessment result will be promptly released to students upon completion accompanied by written comments based on student progress and performance.

COURSE FORMAT

1_Group Work
1. Students may work in groups on various assignments and projects throughout the course calendar.
2. Final projects must be based on individual building design proposals. If the preliminary work shown was developed in partnership with other students – this must be explicitly stated and assessed accordingly.

2_Teaching Days
1. The Design Studio will be taught on Monday and Thursday 13:30 to 18:00. Students must be in a studio during these teaching hours.
2. Students must attend School Lectures scheduled 12:30 – 13:30.
3. Field trips, lectures, and other learning activities may be scheduled outside of teaching days.

3_Studio Spaces
1. Each Studio will have their own space, accommodating a desk for each student.
2. Layouts will be issued at the start of the academic year.
3. The school has made studio space and use a priority. Students should maximise the use of their space by conducting design work in studio.
4. Working in the studio creates an opportunity for peer learning and collaboration – take advantage of this valuable resource.
5. Studio space should be respected – especially with consideration of food, drinking, material use, personal safety, disruption to others, and building safety regulations. Areas relating to fire escape should be always kept clear.

4_Group Pinups
There are five informal scheduled pinups for sharing across different studio units. These are designed to give students practice in orally presenting the priorities of their research, investigations, and design interests.

TECHNICAL DESIGN

Building and structural systems support will be coordinated by Prof. Shuaizhong WANG beginning in term 2 and ahead of the Technical Design assessment. Consultations with experts will assist in adding a stronger technical focus and key design element to a studio design project. Sessions can be scheduled by studio groups, and with individuals. Students are recommended to prepare appropriately ahead of those consultations with their own research, drawings, and materials to maximise this resource.

FIELD TRIP

Tokyo – October 04-13. Schedule TBC

- Museum of Nature and Science
- Takenaka Research & Development Institute
- Ueno Royal Museum.
- The National Art Center
- The National Museum of Modern Art
- National Archives of Modern Architecture
- The Chiba Prefectural Museum of Art.
- Studio visit and architectural tour with Prof. Erez Golani Solomon.
- Azabudai Hills Gallery.
- Studio visit and architectural tour with Rafael A. Balboa
- Museum of Contemporary Art Tokyo.
- VUILD - Tour of VUILD Factory
- Panasonic Shiodome Museum of Art.
- Mori Art Museum.
- Aoyama Technical College
- Galaxy & teamLab

Hong Kong – many local field trips will typically happen on Monday or Thursday afternoons during regularly scheduled class to culinary institutions, F&B, and design-related locations.

REQUIRED READINGS

Bourdain, Anthony, 作者. 廚房機密檔案 : 烹飪深處的探險. 初版. 臺北市: 臺灣商務印書館, 2004. Print.

Bourdain, Anthony, 及洪慧芳, 作者. 波登不設限 = No reservations. 初版. 台北市: 臺灣商務印書館股份有限公司, 2010. Print.

Bourdain, Anthony, 作者. 半生不熟 : 關於廚藝與人生的真實告白. 譯 洪慧芳. 初版. 台北市: 時報出版, 2018. Print.

Frascari, Marco. "Tools for Architectural Thinking." Eleven Exercises in the Art of Architectural Drawing. Routledge, 2011. 127-38. Web.

Frascari, Marco. "The Importance of Dreaming in Architecture." Marco Frascari's Dream House. 1st ed. Routledge, 2017. 52-72. Web.

Calvino, Italo., and William Weaver. Mr. Palomar. London: Vintage, 1999. Print. Vintage Classics (London, England).

Serafini, Luigi. Codex Seraphinianus. Milan: Franco Maria Ricci, 1993.

Colonna, Francesco. Hypnerotomachia Poliphili: The Strife of Love in a Dream. New York: Thames & Hudson, 1999. Print.

Carroll, Lewis. Alice's Adventures in Wonderland. New York: Macmillan, 1920

Gregory, R. L. Eye and Brain: The Psychology of Seeing. 5th ed. Oxford; New York: Oxford UP, 1998. Print.

Bandur, Markus. Aesthetics of Total Serialism: Contemporary Research from Music to Architecture. Basel;

Lynn, Greg. Animate Form. New York: Princeton Architectural, 1999. Print.

Ottolenghi Simple: A Cookbook Hardcover – October 16, 2018, by Yotam Ottolenghi.

REQUIRED FILMS

Ede, François. Playtime: [Un Film De Jacques Tati]. [Paris]: Ed. Cahiers du cinéma, 2002.
Tarkovskiĭ, A. A., & Mikhalkov-Konchalovskiĭ, A. S. (1964). Andrei Rublev. Moscow: Mosfilm.
The Mirror (Ayneh, 1997). Tehran.
Metropolis. Directed by Fritz Lang, performances by Brigitte Helm, Alfred Abel. UFA, 1927
Edward Burtynsky: Manufactured Landscapes. Toronto: Mongrel Media, 2006.
MGM Home Entertainment Inc. (2002). Koyaanisqatsi. Santa Monica, CA: MGM Home Entertainment.
Hannibal. (2013-2015)
Babette's Feast (1987)
Willy Wonka & the Chocolate Factory (1971)
Ratatouille (2007)
Eat Drink Woman (1994)
God of Cookery (H*ong Kong, 1996)*
Like Water for Chocolate *(1992)*

IMPORTANT NOTE TO STUDENTS

Expectations for Professional Conduct
The motto of The Chinese University of Hong Kong (CUHK) is "Through learning and temperance to virtue". This motto places equal emphasis on the intellectual and moral education of students. In addition to pursuing academic excellence, students of CUHK are expected to maintain and uphold the highest standard of integrity and honesty in their academic and personal lives, respect the rights of others and abide by the law. More information on Postgraduate studies can be found in the PG Student Handbook. https://www.gs.cuhk.edu.hk/

Attendance
Class attendance is required in all courses. For an excused absence, the instructor must be notified and presented with documentation of illness or personal matter. Please note: **Three (3)** or more unexcused absences may result in a failing grade for the course.

Academic Honesty
The Chinese University of Hong Kong places very high importance on honesty in academic work submitted by students and adopts a policy of zero tolerance on academic dishonesty

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at: http://www.cuhk.edu.hk/policy/academichonesty/.

With each assignment, students may be required to submit a statement that they are aware of these policies, regulations, guidelines and procedures.

Third-Party Assistance
All intellectual work essential to the design project must be completed by the student and cannot, under any circumstance, be outsourced to a third party (including, but not limited to a company, consultant, alumni, and/or friend).

In the design studio context, students may utilize external resources, such as printing services for presentation materials, and/or laser cutting and 3D printing services for prototyping purposes. Use of such third-party services constitutes non-intellectual work done by others. It is only permitted with prior written consent from the studio tutor and acknowledgment of such work done by the third party.

Assistance from other students or friends for aspects of project production also constitutes non-intellectual work done by others; this is allowed only if declared and acknowledged in a written statement attached to any such work that has received assistance.

Under all circumstances, students must declare all work done by others by completing the school's designated form before assessment. This form must include a detailed explanation of the third party's identity (name and relationship to the student), when and how they were utilized, and the specific tasks they performed in the project. The completed form, signed by the student, must be endorsed by the tutor and presented during the final review. The school will collect and retain this form for record-keeping purposes.

Failure to follow this code of conduct may be considered a case of academic dishonesty, to be reviewed by a disciplinary board, and possible failure of the course.

Artificial Intelligence
Unless approved by the Programme or School Director, any use of AI tools such as ChatGPT or image generation tools (Midjourney) etc. is strictly prohibited and may result in disciplinary action in accordance with university policy on academic honesty. Students may refer to the CUHK 'Use of Artificial Intelligence tools in Teaching, Learning and Assessments' – A Guide for Students.

Student Work
Submission of studio documentation must be complete and correctly formatted. Missing or incomplete submission of the documentation folder will result in the grade for the course being withheld. This will prevent registration for the following term or delay graduation. In addition, a grade deduction of *one letter grade* will be made.

SCHEDULE

Important Dates

0_Studio Selection for Students 02 SEP 2024
1_Studio Drawing Assignment 05-12 SEP 2024

2_ Reviews (40%)
Review 1, 28-31 OCT 2024 (10%)
Review 2, 09-12 DEC 2024 (20%)
Review 3, 03-06 MAR 2025 (10%)

3_Final Review (50%)
Final Project Presentation, 06-08 MAY 2025 (50%)

4_Project Book (10%)
Project Book, 17 MAY 2025

5_HKIA EXHIBITION
Tutors are to collect all studio materials for the HKIA Exhibition before 25 MAY 2025.

Term 1: 2 September 2024 (Monday) – 12 December 2024 (Thursday)

WEEK 01		
02.09	**ORIENTATION & STUDIO PRESENTATION**	**Studio Selection for Students**
06.09	**DAY_01 OF STUDIO** 00_DRAW	**Studio Sections Announced** **Drawing Assignment 00**
WEEK 02		
09.09		3D SCANNING WORKSHOP
12.09	01_DIAGRAM	**Drawing Exhibition – and Review (12:30-13:30)**
WEEK 03		
16.09		MOTION CAPTURE WORKSHOP
19.09	02_SURFACE	
WEEK 04		
23.09		ROBOT FILM WORKSHOP 01
26.09	03_EAT	FIELD TRIP – COOKING SCHOOL
WEEK 05		
30.09		FIELD TRIP
03.10	04_GATHER	
WEEK 06		
07.10		Field Trip to Tokyo (4_{th} – 13_{th})
10.10		Field Trip to Tokyo (4_{th} – 13_{th})
WEEK 07		
14.10	05_SIT	PINUP_01
17.10		
WEEK 08		
21.10		
24.10		
WEEK 09		
28.10		**Review 1/3**
31.10	06_SERVE	**Review 1/3**

WEEK 10		
04.11		
07.11		
WEEK 11		
11.11		
14.11		
WEEK 12		
18.11		PINUP_02
21.11		
WEEK 13		
25.11		
28.11		LAST DAY OF TEACHING
WEEK 14		
02.12		
05.12	07_DINING EXPERIENCE	DINNER_SERVED
WEEK 15		
09.12		**REVIEW 2/3**
12.12	08A_REFLECTION	**REVIEW 2/3**

Term 2: 6 January 2025 (Monday) – 17 May 2025 (Friday)

WEEK 19		
06.01	08B_LIGHT_STRUCTURE	
10.01		
WEEK 20		
13.01	09_TECHNICAL_MODEL	
17.01		ROBOT DRAWING WORKSHOP 01
WEEK 21		
20.01	10_TECHNICAL_DRAWING	PINUP_03
23.01		
WEEK 22		
27.01	11A_DESIGN_MODEL 1:100	
30.01		**University Lunar New Year Vacation (28-02 Feb)**
WEEK 23		
03.02	11B_PROGRAMME	VR WORKSHOP
06.02		
WEEK 24		
10.02	11C_ENVELOPE	
20.02		
WEEK 25		
17.02	11D_CONTEXT	PINUP_04
20.02		
WEEK 26		
24.02	12_TECHNICAL_1:50	
27.02		
WEEK 27		
03.03	TECHNICAL DESIGN	REVIEW 3/3
06.03	TECHNICAL DESIGN	REVIEW 3/3

WEEK 28		
10.03		ROBOT FILM WORKSHOP 02
13.03		
WEEK 29		
17.03	ELEVATION	
20.03		
WEEK 30		
24.03		
27.03	SECTION	
WEEK 31		
31.03		
03.04		
WEEK 32		
07.04	PLAN	PINUP_05
10.04		
WEEK 33		
14.04		ROBOT DRAWING WORKSHOP 02
17.04		LAST DAY OF TEACHING
WEEK 34		
21.04	PERSPECTIVE	**Easter Holiday**
24.04		
WEEK 35		
28.04		
01.05	PRESENTATION PREP	**Labour Day**
WEEK 36		
05.05	PRESENTATION PREP	**Buddha's Birthday**
08.05		**Final Review (06-08)**
WEEK 37		
12.05		
17.05		**Project Book Submission (17/5)**

MArch Studio Review

Written Feedback to Students

Term: _____ **Grade:**_____

Review: _____

Studio Tutor: _____

Student Name: _____

Student ID: _____

Feedback from Studio Tutor:

Achievements:

Challenges:

Academic Honesty Statement

*Please print out and pin-up next to your works on your allocated panels

Relating to the 2024-25 Term 2 Studio Review pin-up (MArch students)

Please tick one of the following:

☐ All the work and models presented at the Final Review were made by me personally

☐ All the work and models presented at the Final Review were made by me.
with the exception of the following:

Under all circumstances, students must declare all work done by others by completing this form before the review. Provide a detailed explanation of the third party's identity (name and relationship to the student), when and how they were utilized, and the specific tasks they performed in the project.

Student's Name: _____ Date: _____

Signature: _____

Tutor's Name: _____ Date: _____

Signature: _____

Grade	Descriptor	Criteria	Points
A	Excellent	Comprehensively excellent performance on all aspects of the design intention, development, technical resolution and presentation. Achieving all learning outcomes with distinction.	4
A-	Very Good	Generally outstanding performance on the design intention, development, technical resolution and presentation. Achieving all learning outcomes with merit.	3.7
B+	Good	Substantial performance on the design intention, development, technical resolution and presentation. Achieving all learning outcomes satisfactorily.	3.3
B			3
B-			2.7
C+	Fair	Fair performance on the design intention, development, technical resolution and presentation. Achieving all learning outcomes at a passing standard.	2.3
C			2
C-			1.7
D+	Pass	Barely satisfactory performance on the design intention, development, technical resolution and presentation. Achieving all learning outcomes at a barely satisfactory standard.	1.3
D			1
F	Failure	Unsatisfactory performance on the design intention, development, technical resolution and presentation. Not achieving all learning outcomes.	0