BA. ARCH
FOUNDATION DESIGN
STUDIO SEQUENCE
AY 2019-2020
Semester 1 & 2

Department of Architecture
School of Design & Environment
Design questions the present and explores the future. It involves the process of translating a vision into reality. Through constant evolution and innovation, the practice of architectural design promotes well and green environments by utilizing new technologies and forward-thinking spatial planning skills, while remaining rooted in the social, cultural and climatic context of the locale. The department of architecture at the National University of Singapore champions design excellence in teaching and research within a full spectrum of study and research programmes in urban planning, urban design, landscape design, architecture and sustainable design. We embed teaching in research and research in teaching by encouraging collaboration across research clusters and student enrolment in modules from different programmes. Most importantly, innovative and inclusive design exploration and production is at the core of all our teaching and research programmes. Additionally, NUS architecture takes advantage of the wide-ranging expertise NUS has to offer, by providing a platform for learning and research in collaboration with other disciplines.

The pace of globalization and rapidly increasing integration and interaction between societies means schools of architecture around the world must be, and are, concerned with both global and local issues, and making projections that suit global and local conditions. NUS architecture is no exception. Singapore is the hub of ASEAN, a vibrant region with strong economic and infrastructure development. ASEAN, with the third largest population and fifth largest GDP in the world, offers an unparalleled opportunity to create a sustainable and livable environment for the future economy. Other major economies in Asia, such as China, Japan, Korea and India, are also rapidly urbanized and developed and face the same challenges in environmental design. NUS architecture collaborates with institutions within these regions and globally in both teaching and research, to seek out spatial possibilities for the future. I welcome all to come explore with us.

Puay-Peng Ho
Professor & Head of Department
NUS is Asia’s leading design and research school for Architecture. Our programme cultivates a comprehensive and deep understanding of Asia and the equatorial regions’ opportunities and challenges. Students acquire knowledge as designers, intellectuals and citizens who go on to shape and influence the built environment.

Design and its critical components are synthesized in our foundation design studios. The foundation design studio is supported by a rigorous core curriculum of architectural theory, history, tectonics as well as systems and technologies. At the same time, elective modules within the department and throughout the University enable students to expand their interests.

In the first three years, students are introduced to foundational concepts in design, modes of architectural representation and critical design thinking through the acts of drawing and making. Through various exercises and projects, they encounter a broad range of issues prevalent to Asia in material form. Students learn to engage these issues through architectural techniques pertinent to designing for a tropical clime, by specifically responding to a Southeast Asian geopolitics. The curriculum is attentive to the expanded field of research and design dealing with the equatorial climate, its building envelops, and the site realities of Asia. A series of electives, symposiums, guest lectures and field research complement this foundational design program.

Our graduates are poised to become leaders in design for Asia, and for the world.

Erik G. L’Heureux AIA, LEED AP BD+C
Dean’s Chair Associate Professor, Vice Dean
BA Arch Undergraduate Program Director
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DESIGN STUDIO THEMES

Year 1
Level 1: Seeing, Thinking, Making
Level 2: Scale, Precedent, Context

Year 2
Level 3: Structure, Site, Program
Level 4: Environment, Climate, Envelope

Year 3
Level 5: Density, Urbanism, Publicness
Level 6: Comprehensiveness, Integration, Technology
PROGRAMME OVERVIEW

LEVEL 1: Seeing, Thinking, Making
Level 2: Scale, Precedent, Context
Level 3: Structure, Programme, Site
Level 4: Environment, Climate, Envelope
Level 5: Density, Urbanism, Publicness
Level 6: Comprehensiveness, Integration, Technology

UNDERGRADUATE

B.A. (ARCH) 1
B.A. (ARCH) 2
B.A. (ARCH) 3

GRADUATE

B.A. (ARCH) HONS

M.ARCH PREP OR MLA 1 OR MUP 1

M.ARCH
MLA 2
MUP 2
MAUD
MSI: ISO

PROFESSIONAL EXAM
(AFTER 3 YEARS)

SINGAPORE INSTITUTE OF ARCHITECTS
BOARD OF ARCHITECTS

ARCHITECTURE
LANDSCAPE ARCHITECTURE
URBAN PLANNING
OTHER SPECIALISATIONS

ABBREVIATIONS

B.A. (ARCH) Bachelor of Arts (Architecture)
M.ARCH Master of Architecture
MUP Master of Urban Planning
MLA Master of Landscape Architecture
MAUD Master of Urban Design
MSI: ISO Master in Integrated Sustainable Design
LEVEL 1 MODULES

AR2224 IDEAS AND APPROACHES IN DESIGN

This module provides an introduction to some of the basic concepts in and approaches to architecture as a practice and as an academic discipline. It also highlights the nature and historical development of architecture especially with respect to “vocabulary” and “ideas”, and introduces their use in the analysis of the works of architecture.

The module will (1) imbue the knowledge of architecture as a special category of man-made objects, replete with ideas, social contexts and intellectual processes; (2) introduce architecture through some of its basic concepts such as “periods”, “styles”, “language”, etc.; (3) encourage an active and a critical approach to analysing the works of architecture; (4) show the relevance of architecture in contemporary and immediate real-life problem sets like sustainability, subjectivity, identity, meanings, etc.

Wong Yunn Chii

AR1327 STRUCTURAL PRINCIPLES

This module for architecture students introduces the students to structural principles in architectural design. It covers the effects and properties of structural forces, structural systems and their interfaces with building functions in served and servant spaces. It also examines issues of construction and assemblage, in relation to special building types and building systems.

Philip Wang
LEVEL 2 MODULES

AR2222 HISTORY & THEORY OF WESTERN ARCHITECTURE

This core introductory module looks at the production and development of architectural ideas in the Western European and Northern American historical context, from the Antiquities, the pre-modern to early modern, and the modern to postmodern/contemporary periods. The rich and complex historical trajectory underpins the constructedness of architectural knowledge. While by no means exhaustive, the specific thematic focus adopted for each lecture allows students to grasp the connections between epochal periods of architectural innovations and equally, their counter-movements.

Simone Chung
Wong Yunn Chii

AR1328 THE TROPICAL ENVELOPE

The module examines both the constructional and environmental design strategies that shape the architectural envelope in the tropical climate. It discusses the inter-relationship between passive environmental design performances and construction with its choice of materials and methods. It also emphasises the interdependence of design and technique/technology.

Cheah Kok Ming
Swinal Samant Ravindranath
LEVEL 3 MODULES

AR2221 HISTORY & THEORY OF SEA ARCHITECTURE

This module introduces students to architecture and the built environment in Southeast Asia: their variety, the material, historical and cultural contexts of their production, and the theories and debates. Unit I explores the pre-modern, pre-colonial, and colonial architectural legacies of Southeast Asia and introduces the terms and categories that are used to discuss them. Unit II looks at the theories, debates, and arguments on contextual response in modern and contemporary architecture in Southeast Asia since the early 20th century (coinciding with late colonial rule) through the post-independence period to contemporary times.

Imran Bin Tajudeen

AR2524 SPATIAL COMPUTATIONAL THINKING

Spatial Computational Thinking is increasingly being recognised as a fundamental method for various spatial disciplines. It involves idea formulation, algorithm development, solution exploration, with a focus on the manipulation of geometric and semantic datasets. Students will use parametric modelling tools for generating and analysing building elements at varying scales. Such tools use visual programming interfaces to allow complex algorithms to be developed and tested. Students will learn how to structure their ideas as algorithmic procedures that integrate data-structures, functions, and control flow. Through this process, students will also become familiar with higher-level computational concepts, such as decomposition, encapsulation and abstraction.

Patrick Janssen
LEVEL 4 MODULES

AR2327 ARCHITECTURAL TECTONICS

Architectural form is a result of its construction, structure and materiality. In a symbiosis of historical understanding of structural theory, construction and engineering architecture emerges. The module focuses on materials and construction techniques within different environmental and climatic conditions. The rules of structural engineering are used to explain architectural forms. The principles of construction in architecture are explained and the possibilities for sustainable solutions in design will be explored. Lectures are accompanied with hands-on assignments to explore and explain Structural and Design Logics. It covers in greater depth, important aspects of Architectural Construction and Buildings Structures, whereby it provides basic knowledge on construction and structural systems applicable and necessary for Architectural Design.

TBC

AR2723 STRATEGIES FOR SUSTAINABLE ARCHITECTURE

This module deals with topics in ecological and sustainable architecture, focusing on environmental issues as they apply to design. Basic technical knowledge on energy, water, materials, etc., is covered in the context of how buildings operate. The module enables students to operationalize the principles when generating design solutions.

Yuan Chao
AR3233 INTRODUCTION TO URBANISM

The module introduces the foundational and holistic knowledge and understanding of urbanism as the study of relationships between people in urban areas with the built environment. It provides a comprehensive inquiry of urban history, key theories, topics, design principles and practices related to urban design, urban planning and landscape design. The emphasis is on developing critical and analytical skills of reading, documenting, analysing and synthesising complex information regarding contemporary urban issues and conditions.

Zdravko Trivic
LEVEL 6 MODULES

AR3721 ENVIRONMENTAL SYSTEM AND CONSTRUCTION

The role of this course is to provide students with an understanding of the concepts of environmental systems and their spatial requirement in the design processes so that they can apply and integrate them in an architectural context. The course will also contribute to the development of different perspectives and the analysis of the environmental systems (or building services systems) using BIM, and design from different points of view, design considerations, and system selections.

Eddie Lau
Patrick Janssen
LEVEL 5 MODULES (MASTER OF LANDSCAPE ARCHITECTURE EMPHASIS)

AR3101A DESIGN 5 (LANDSCAPE ARCHITECTURE EMPHASIS)
This studio-based module develops basic skills in landscape design and marks the first-time experience of architecture students in the field of landscape architectural studio work. It leads the students into urban and suburban contexts, where landscape meets city and city eats landscape.

AR3223 INTRODUCTION TO URBANISM
The module introduces the foundational and holistic knowledge and understanding of urbanism as the study of relationships between people in urban areas with the built environment. It provides a comprehensive inquiry of urban history, key theories, topics, design principles and practices related to urban design, urban planning and landscape design. The emphasis is on developing critical and analytical skills of reading, documenting, analysing and synthesising complex information regarding contemporary urban issues and conditions.

Zdravko Trivic

LA4203 HISTORY AND THEORY OF LANDSCAPE ARCHITECTURE
Human inhabitation and intervention on the landscape is traced from prehistoric times to the present. In particular, the relationship between humans and landscape as presented in particular traditions and cultures is highlighted. The coverage is broad, including both Eastern and Western traditions and ancient and modern practices. Emphasis is on comparative studies between different cultures and traditions rather than on detail and depth of any particular practice of landscape intervention.

Ervine Lin
LEVEL 6 MODULES  (MASTER OF LANDSCAPE ARCHITECTURE EMPHASIS)

AR3102A DESIGN 6 (LANDSCAPE ARCHITECTURE EMPHASIS)

This studio-based module develops basic skills in landscape design and marks the ‘second-time experience’ of architecture students in the field of landscape architectural studio work. It leads the students into central urban contexts, where architecture ‘meets landscape architecture and built city defines public open spaces’.

AR3721 ENVIRONMENTAL SYSTEM AND CONSTRUCTION

The role of this course is to provide students with an understanding of the concepts of environmental systems and their spatial requirement in the design processes so that they can apply and integrate them in an architectural context. The course will also contribute to the development of different perspectives and the analysis of the environmental systems (or building services systems) using BIM, and design from different points of view, design considerations, and system selections.

Eddie Lau
Patrick Janssen

LA4212 TOPICS IN TROPICAL FOREST ECOLOGY

This module follows from Tropical Plant Identification 1. Matching plants to site will be one of the topics covered. Because of the tropical context the focus will be on trees. The course will leverage on the experience gained through establishing Singapore as a “Garden City”. The creation of a forest within a city, an “urban forest”, is one of its aims. The course will start with an appreciation of the immense biodiversity of plants in our region. The irreplaceable values that natural primary forests have will be emphasized. The case of the need to extend these forests by recreating them in the urban context will be discussed. The appropriate use of non-indigenous plants will also be covered. The need to be ecological-minded when selecting plants will be emphasized with particular attention being placed on conservation; the beautification of place should not be done at the expense of making another landscape look less attractive. Lectures will be augmented with field trips which serve illustrate the application of the principles discussed to the ground. The business implications to matching the right plant to site, using quality plants and then being able to care for them professionally will be covered.

TBC
RESEARCH CLUSTERS

An Asia Research Focus

The problem sets in our research-driven studios revolve around the key and strategic issues facing Asian countries. Anticipating new demands and new kind of cities that will emerge throughout Asia, the Department addresses critical issues in design explorations and planning solutions. They engage with the contemporary reality of borderless economies and technological advancements. Asia’s unique pressures to housed educate, and engage large populations provide NUS Architecture a set of design and research agendas formed by critical insights into uncharted territories of knowledge and experience. In this regard, the Department’s research focus responds to these emergent conditions through its five core research areas:

I. History Theory Criticism

The History Theory Criticism cluster develops critical capacities to examine questions of architectural production, representation and agency within historical and contemporary milieu. Taking architecture and urbanism in Asia as its primary focus, members work in interdisciplinary and transnational modes. We explore a range of topics relating to colonial/postcolonial and modern/postmodern Asian cities; aesthetics and technopolitics of tropical climate and the built environment; affective media including film, contemporary art and exhibitionary modes; heritage politics and emergent conservation practices. We develop discursive fronts through a variety of media and scales. The cluster research encompasses scholarly, creative and advocacy activities. Output includes monographs, edited volumes, research papers, architectural reviews in professional journals, curatorial practice, conservation work, film and photography, object-making, and policy-influencing advocacy work.

Johannes Widodo (Cluster Leader)
Lilian Chee
Chung Shu Yeng, Simone
Ho Puay Peng
Lee Kah Wee
Tomohisa Miyauchi
Tsuto Sakamoto
Chang Jiat Hwee
Wong Yunn Chii
Erik G. L’Heureux (Minor)
II. Research by Design

The Research by Design cluster performs translational research through the practices of making as research rather than through traditional forms of academic research. It links the importance of creating, drawing, and building with rigor, originality, and significance to produce innovative and creative designs that shape the built environment. Located strategically between the North-South axis of rapidly urbanizing Asia and the East-West line of the tropical equator, the Research by Design cluster performs research through practice in three main themes: 1) Novel aesthetics of climatic calibration and performance; 2) Contemporary architectonics of fabrication, material, and resources contingent on South East Asia; and 3) Emergent spaces of inhabitation and production surrounding the equator.

Erik G. L’Heureux (Cluster Leader)
Cheah Kok Ming
Lim Ee Man, Joseph
Ong Ker Shing
Shinya Okuda
Lilian Chee (Minor)
Ruzica Bozovic Stamenovic (Minor)
Tan Beng Kiang (Minor)

III. Technologies

The Technologies cluster investigates environmentally performative/sustainable building forms and systems, and generative-evaluative processes for designing liveable environments. Its research employs traditional and emerging technologies contributing to a new understanding of the human ecosystem, and emerging computational methods and techniques for discovering the relationships between form and performance. It researches on the relationship between human and natural landscapes, at every scale, from the building component scale to the urban scale. Special emphasis is placed on the context of high density Asian cities and the context of the Tropics.

Rudi Stouffs (Cluster Leader)
Patrick Janssen
Nirmal Kishnani
Lam Khee Poh
Eddie Lau
Swinal Samant
Yuan Chao
Oscar Carracedo (Minor)
Joseph Lim (Minor)
Shinya Okuda (Minor)
Zhang Ye (Minor)
IV. Urbanism

With a comprehensive understanding of the complexity and distinctive characters of emerging urbanism in Asia, the vision is to develop sustainable models and innovative urban strategies to cope with various environmental, social, economic and technological challenges that Asian cities face today and in the future. Emergent urban issues related to community & participation, conservation & regeneration, ageing & healthcare, built form, modelling & big data, and resilience & informality are investigated from multiple perspectives and inter- and transdisciplinary collaborations to question conventional norms and conceptions and establish new visions for a sustainable urban future.

Cho Im Sik (Cluster Leader)
Oscar Carracedo
Fung John Chye
Heng Chye Kiang
Ruzica Bozovic-Stamenovic
Tan Beng Kiang
Zdravko Trivic
Zhang Ye
Lee Kah Wee (Minor)
Johannes Widodo (Minor)

V. Landscape Studies

The Landscape Studies cluster undertakes research to generate new knowledge of landscapes as socio-ecological systems and promotes the use of knowledge in governance systems and landscape design that improve the well-being of humans and the ecological integrity of the environment. The geographic focus is primarily high-density urban regions in Asia, but members of cluster also work in the transitional zones within the rural-urban continuum, where urban regions are expanding at a rapid rate into rural landscapes. The overall research approach is both interdisciplinary and transdisciplinary — we are concerned with not just advancing theoretical concepts and knowledge, but also applying the knowledge in practice and public policy to shape the environment. Our research areas cover a wide spectrum of socio-ecological dimensions of landscape, from landscape science, landscape management, to design research and socio-behavioural studies.

Tan Puay Yok (Cluster Leader)
Jessica Cook
Hwang Yun Hye

(Minor) indicates a secondary membership
Studio Leaders:

Wu Yen Yen (Level 1 Studio Leader & Unit 1 Leader)
Adjunct Assistant Professor, M.Arch (Columbia GSAPP), BA Arch Studies (NUS),
MSIA, Registered Architect Singapore

Tomohisa Miyauchi (Unit 2 Leader)
Senior Lecturer, M.Arch (Harvard), B.Arch (SCI-Arc), Reg Arch WAIA, USA, Reg
Arch Japan

Liang Lit How (Unit 3 Leader)
B. Arch (NUS), BA Arch Studies (NUS)

Faculty: Semester 1

Wong Yunn Chii
Associate Professor, Ph.D (MIT), M. Arch, AB (Architecture) & BS (CE)
Washington University in St. Louis

Ng San Son
M. Arch (NUS), BA Arch Studies (NUS), Reg Arch Singapore

Lee May Anne
B. Arch (Hons) NUS, B. Arch Arch. Studies (NUS), MSIA, Reg Arch Singapore

Yang Han
M. Arch (NUS), BA (2nd Upper Hons) Arch Studies (NUS), Reg Arch Singapore

Elaine Lee
M.Arch, BA Arch Studies, (NUS)

Ng William
B.Arch (Hons), BA Arch Studies (NUS), MSIA, Registered Architect Singapore

Chin Kean Kok
B.Arch (Hons), BA Arch Studies (NUS), MSIA, Registered Architect Singapore
Studio Leader:

Thomas Kong (Level 2 Studio Leader & Unit 1 Leader)
Associate Professor; M.Arch (Distinction) Cranbrook, B.Arch (Hons) NUS, Assoc. AIA, Registered Architect, Singapore.

Dr Tan Beng Kiang (Unit 2 Leader)
Associate Professor; Doctor of Design (Harvard University), MArch II (University of California, Los Angeles), BArch Hons (National University of Singapore), MSIA, Reg Arch Singapore

Lee May Anne (Unit 3 Leader)
B. Arch (Hons) NUS, B. Arch Arch. Studies (NUS), MSIA, Reg Arch Singapore

Faculty: Semester 2

Lim Pin Jie
B. Arch 1st Class Hon (NUS), M. Arch (NUS), Reg Arch Singapore

Adrian Lai
Adjunct Assistant Professor; BA (Arch) NUS, AA (DIP) UK, ARB (UK) Reg Arch UK, BOA Reg Arch Singapore, MSIA

Lee Hui Lian
B. Arch (Hons) NUS, M. Arch NUS, Reg Arch Singapore

Yong Sy Lyng
BArch Cooper Union, BA (Arch) NUS, Reg Arch Singapore

Diong Fuhan
B. Arch (NUS), M. Arch (NUS), Reg Arch Singapore

Fung John Chye
B. Arch (NUS), Reg Arch Singapore

Felicia Toh
BOA Reg Arch
Studio Leader:

Adrian Lai (Level 3 Studio Leader & Unit 1 Leader)
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BOA Reg Arch Singapore, MSIA

Dr Ruzica Bozovic Stamenovic (Unit 2 Leader)
Associate Professor, Dr. Sci; Mr.Sci; Spec.Arch; Dipl. Eng. Arch; University of
Belgrade; Reg Arch R. Serbia

Peter Sim (Unit 3 Leader)
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Faculty: Semester 1

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Shinya Okuda
Associate Professor; M. Eng., B. Eng. Reg Arch (JP, NL)

Pan Yi Cheng
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Dean’s Chair Associate Professor, Vice Dean, M.Arch. Princeton University, BA Arch. Washington Univ in St. Louis, Reg Arch New York, Rhode Island, AIA, LEED AP BD+C  

Dr Lilian Chee (Unit 2 Leader)  
Associate Professor, Deputy Head (Academic), PhD (Bartlett, UCL), MSc (Arch History) with Distinction (Bartlett, UCL), B.Arch (Hons) (NUS), BA (Arch Studies) (NUS)  

Tiah Nan Chyuan (Unit 3 Leader)  
Adjunct Assistant Professor, BA (Arch) NUS, AA (DIP) UK, MSIA, Reg Arch Singapore  

Faculty: Semester 2  

Chum Jia Xin  
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Dr Yuan Chao  
Assistant Professor, PhD (The Chinese University of Hong Kong), MPhil (Beijing University of Civil Engineering and Architecture), B.E. (Zhejiang University of Technology)  

Roy Pang  
B. Arch (Hons) (RMIT), MSIA, Reg Arch Singapore, GMM, ADA, DISP  

Paul Yeo  
BA. Arch (Hons) (NUS), M. Arch (NUS), Reg Arch Singapore  

Ho See Jia  
M. Arch (Harvard GSD), BA. Arch (NUS), Reg Arch New York State  

Tham Wai Hon  
BA Arch (Hons) NUS, M Arch NUS  

Victor Lee  
BA (Arch Studies) (NUS), AA (Dipl London), ARB (UK), BOA, Registered Arch UK and Singapore, MSIA  

Dicle Uzunyayla  
B.Arch, MSc, BOA Reg Arch TR
Faculty: Semester 1

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Yeo Yih Hsiu
MSIA, BOA Reg Arch Singapore.

Charmaine Wong
NUS BA Arch (Hons), Singapore, NUS M Arch, Singapore, BOA Reg Arch Singapore.

Zdravko Trivic
Assistant Professor, PhD (Architecture) (NUS), Dip. Eng Arch (University of Belgrade).

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BOA

Ong Ker Shing (Unit 3 Leader)
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Faculty: Semester 2
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Arch Japan

Liang Lit How
B. Arch (NUS), BA Arch Studies (NUS)

Chin Kean Kok
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Richard Ho
Professor in Practice, BArch (Hons) NUS, MSIA, Reg Arch Singapore

Chu Lik Ren
B. Arch (NUS), Reg Arch Singapore

Darlene Smyth
B. Arts, Music and Communications (Ottowa), B. Arts, Env Design (Dalhousie),
MArch (Dalhousie)

Chaw Chih Wen
B. Arts (Architecture) (NUS), M.Arch (NUS), MSIA, Reg Arch Singapore
LEVEL 1:
Seeing, Thinking, Making

Any form of representation is a three-fold process.

First, it is a thorough understanding of the nature of the content that is to be communicated. It is important that there is a rigorous, critical understanding of the subject matter: its strength, its value, its underlying operating principles in the way architecture is seen within the larger timeline, its time and place in the cultural, social, geographical spheres in which it is situated.

SEEING is an intellectual exercise of observation, deciphering, then a re-synthesis of information into an original assessment. Looking is the act of casting one’s eye upon an object, while SEEING refers to the perception of that object within a thought framework.

Second, materializing and formalizing a vehicle that conveys this original representation, is a rigorous design THINKING process that combines both a summation of all the salient points of the subject matter and, more importantly, the ability to convey subtleties in the most succinct, powerful way.

The best architectural representations are those most incisive and original in the SEEING and THINKING of resource material, and the subsequent MAKING of the most powerful form of suitable representation.

In Year 1 Semester 1, architecture will be studied within the context of the prevalent design principles of that time. Through this comparative framework, students will learn to read and understand architecture of different times that embody different design ideologies, represented in a form that is the most communicative and convincing.

The objective is for students to understand that content and representations are not separate operations, but three parts of one creative, communicative process.

Wu Yen Yen
Level 1 Studio Leader, Unit 1 Leader

Tomohisa Miyauchi
Unit 2 Leader

Liang Lit How
Unit 3 Leader
Girl: Where’s that place over there?
Boy: Johor Bahru
Girl: I know. What’s after that?
Boy: The rest of Malaysia.
Girl: And then?
Boy: Thailand.
Girl: And then?
Boy: Vietnam.
Girl: And then?
Boy: China.
Girl: And then?
Boy: My grandmother’s house.

Lisa Law and Lily Kong in ‘Contested Landscape, Asian Cities’, 2002
LEVEL 2:
Scale, Precedent, Context

The Year One Semester Two Studio continues with the building of a strong foundation in architectural design by emphasising thinking, making, and drawing. Scale, Precedent, and Context are key topics and will be introduced through a series of projects over the semester. By scale, we understand the human body as a sensing and expressive figure. Historically, it has served as a psychological and physical measure of body-object relationships, spatial experiences, building proportions, and material dimensions.

A precedent study reveals the material, structural, formal, and spatiotemporal organisations of an existing building based on pre-established criteria and represented through drawings and diagrams. The Semester Two Studio will broaden the analysis by including existing spaces and the relationship to users, objects, flora and fauna. Uncovering the socio-cultural, political, economic, technological, and biota determinants of the precedents selected for analysis is a critical component of the studio’s focus.

Using a dialog between a teenage couple in the 1999 film Eating Air by filmmakers Jasmine Ng and Kelvin Tong, geographers Lisa Law and Lily Kong argue that a context is both real and imaginary. Vast geographical distances that separate nations can co-exist with the nearness of one’s personal history and imagination.

For Ghanaian-British architect Sir David Adjaye, context gives meaning to materials, which otherwise remain silent and generic. In a traditional Japanese home, the Tokonoma (precedent) is not only an elevated alcove for display but serves as a communicative interior space that responds to the changing seasons and conveys the mood of the occupant. The hanging scroll and flowers in the alcove, he alcove in the building, the building amongst the natural and built environment, time, material, and the emotive constitute a sliding scale of relationships and the overall context for the experience of architectural space.

Thomas Kong
Level 2 Studio Leader, Unit 1 Leader

Dr Tan Beng Kiang
Unit 2 Leader

Lee May Anne
Unit 3 Leader
LEVEL 3:
Structure, Site, Program

AR2101 Level 3 Design continues the deep dive foundational thematic curriculum of the Department's Design Studio. The semester's themes of Structure, Site and Programme are arguably the essence of every architectural project due to the functional and material nature of architecture. And yet, to this quintessential Utilitas and Firmitas, the Department will set forth on a 13-week journey in 13 specific and even idiosyncratic directions as we look to redefine ways to Venustas.

Level 3 Design Studio looks at the world within which we live, work and design: with our internet, our Instagram, our AI, our global warming, our widening poverty gap, our neglected cities, our burgeoning landfills and our plastic oceans, and in the midst of emerging 21st century problems, plus its manifold materials and technologies, to ask that the making of architecture be rethought.

"In the English language you call everything structure. In Europe we don't. We call a shack a shack, and not a structure. By structure we have a philosophical idea. The structure is the whole, from top to bottom, to the last detail – the same idea. That is what we call structure."

Mies van der Rohe

In 'Emergent Structures', if 'structure' is simply defined as the stuff that holds architecture up, studios within this unit will test, stretch and reconfigure this rudimentary definition of 'structure' to inquire what such 'stuff' might be and what it can do. And if architecture begins where engineering ends, emergent structures of the future should exceed mere shelter, and perform beyond the functional.

"Architects do not invent anything, they transform reality."

Alvaro Siza

In 'Architecture as an Act of Site Definition', the unit looks at the stuff that makes up our reality. In city-life and in architecture, we will look at the space-time continuum inside, beside, outside and above our built interventions to approach architectural design as a deliberate act of recognising forms of habits and events, in our tentative steps towards beauty, delight and the sublime.

Program: "a descriptive notice, issued beforehand, of any formal series of proceedings, as a festive celebration, a course of study, etc ..., a list of the items or 'numbers' of a concert, etc., in the order of performance; hence the items themselves collectively, the performance as a whole ..."

Bernard Tschumi, Architecture & Disjunction, 1996

In 'Emergent Organisational Ideas', the unit looks at typologies, organisations, sequences, events and use. Spatial sequences and their relations to the Programmatic sequences are re-examined to learn about indifference, reciprocity and conflicts as viable design tactics. Architectural forms, structures and situations will be assessed and hence, designed as relations of Space, Event and Movement.

Level 3 Design Studio thus sets forth – to define for ourselves through seeing, thinking and making our way to specific and in-depth understandings of how it is that Architecture can be defined by the idea – the idea of structure, the idea of site and the idea of programme. We organise our studios into 3 units working full throttle within disciplined frameworks – 'Emergent Structures', 'Architecture as an Act of Site Definition' and 'Emergent Organisational Ideas' - to engage with this conceptual and critical training by design.

Structure, site and programme are quintessential components of any building project. The act of incorporating their demands into the materialisation of a building will be the basis for which we will push on from. From such foundational skillsets for all young architects, we will push each other to arrive at criticality through ideas of what within these deep mines of desires and bodies of knowledge, could define an Architectural Project. We look forward to an intensive semester of application, production and brinkmanship.

Adrian Lai
Level 3 Studio Leader, Unit 1 Leader

Dr Ruzica Bozovic Stamenovic
Unit 2 Leader

Peter Sim
Unit 3 Leader
The Environment Bubble

Transparent plastic bubble dome affected by air conditioning output
LEVEL 4:
Environment, Climate, Envelope

Growing up, my mother would consistently watch the 6:20pm weather forecast to plan for the day ahead. The turbulent Northeast of the United States, weather changed not only by day, but by hour and its altering dramatics would impact dress, activity, and even mood. On the equator, weather doesn’t exist – at least not in the temperate sense – as the consistency of the equatorial climate across the year drives a different relationship with the air around us. Largely termed as climate, the weather of the equator operates in a narrow bracket of temperature, humidity, and passing storm. That is not to say that change of equatorial climate doesn’t occur; from the monsoon breeze to the passing thunderstorm to stillness of an evening heat, the weather of the equator is normalized due to its consistency of thermal energy about the year. And because of the sun’s course, heat and its evacuation has been understood in negative terms – as a problem where an overheated atmosphere must be cooled or tempered to make life habitable. Or as the typical conversation in the Singapore taxi, the driver emphatically states “Ah, it’s too hot today.”

Adolf Loos posits in The Principle of Cladding (1898) the lineages of architecture found in textiles to modulate climate: “In the beginning we sought to clad ourselves, to protect ourselves from the elements, to keep ourselves safe and warm while sleeping. We sought to cover ourselves. Originally consisting of animal furs or textiles, this covering is the earliest architectural feature.”

From the selection of the garment, to the co-opting of a cave to protect against a billowing storm, to the primitive hut delineating not only interior from exterior but more importantly constructing one climate distinct from another. The means at an architect’s disposal to achieve this has been twofold: the passive techniques of the architectural envelope – not the façade, but the full surface of architecture that modulates sun, heat, rain, temperature, sound, humidity, and breeze. And secondly by actively adding or subtracting energy; adding heat by controlling fire in the hearth and fireplace, increasing humidity by the introduction of a water fountain in the courtyards of the Alhambra, or by inducing air movement and breeze by the hand powered or mechanical fan.

Contemporarily, air conditioning has synthesized these active technologies and in doing so, displaced passive techniques with mechanical ones. In response, architecture has claimed space as the driver for architecture while climate has become the pursuit of the engineer.

This semester will interrogate the definitions of “Environment, Climate, and Envelope” as means to define where architecture begins and ends in the design of environment and climate, to examine the efficacy of architectural approaches that construct climate in compelling ways, and to invent novel approaches that understand the design of climate and environment to be firmly within the domain of architecture.

Erik L’Heureux
Level 4 Studio Leader, Unit 1 Leader

Dr Lilian Chee
Unit 2 Leader

Tian Nan Chyuan
Unit 3 Leader

Image credit: Reyner Banham & Francois Dallegret, A Home is not a House, 1965
LEVEL 5: 
Density, Urbanism, Publicness

A city is a systematic entity that allows people to produce, exchange, transport, consume, work, live, play and sleep. A variety of infrastructures and architecture interconnect each other to sustain the life of the city, while producing and reproducing new economy and symbolic meanings. The complexity of the city often supersedes its systematic thoughts and generates alternative phenomena as well. Such phenomena however turn to be an energy to sustain the vitality of the city.

Focusing on these natures of the city, the studios investigate three issues: density, urbanism and publicness in a particular urban site. The density, measured and indicated by plot ratio characterizes the city's population as well as atmosphere, while the urbanism defines its systematic function and economy. The publicness expresses people's lives, activities and communal sensibilities that derive from them. The studios, instead of applying conventional norms regarding these three issues, rigorously explore an intrinsic nature of the existing site by investigating using big data as well as visiting and scrutinizing the site. The studio also is involved in the urban design and/or intervention group projects to experiment with their ideas for the site.

Subsequently, the proposed urban design/intervention is tested by individual architectural design works. Maintaining a close relationship with the urban design and intervention, the architectural design explores various possibilities of the new urban settings. Therefore, the challenge of the studios lies in the relationship between urban and architectural conditions that reciprocally contribute to the production of an innovative environment.

Tsuto Sakamoto
Level 5 Studio Leader, Unit 1 Leader

Fiona Nixon Tan
Unit 2 Leader

Razvan Ghilic-Micu
Unit 2 Leader

Wong Chong Thai, Bobby
Unit 3 Leader
LEVEL 6: Comprehensiveness, Integration, Technology

"Always design a thing by considering it in its next larger context - a chair in a room, a room in a house, a house in an environment, an environment in a city plan."

Eliel Saarinen

There are two main takeaways when we interpret Eliel Saarinen's words. One could say a comprehensive design needs to consider its context in a systemic way. A building with its physical presence and its activities will affect its environment in many ways. Does it create adverse effect to its surrounding, noise to the neighbourhood, congestion to the access roads or destroy biodiversity as it replaces the lushness that was existing or erase collective memories? Or does it add to and even regenerate the community in which the building is serving by offering amenities, alleviating flood, producing food or enhancing biophilia? It is about the idea that frames the building as an active contributing member in its context, like a lifeform's symbiotic relationship with the ecological system.

The second idea about comprehensiveness is integration. It is about a unifying framework or narrative that merges disparate solutions together. Integration is a process of establishing order by making sense of the relationships between different demands in a situation. In the design of a building, it may be about organizing a hierarchy of spaces for different functions or a mini-infrastructure to manage diverse systems. There is the aim of creating a simpler entity that is capable of performing multiple or complex roles. Higher forms of integration become organic in which every element relates to one another establishing a symbiotic order or a synergy. In a way, for an architecture to be in a systemic relationship with its context, the process will demand a greater depth of synthesis and integration.

Design 6 is about comprehensiveness and technical integration. Each of the three Studio Units will offer their unique methods and architectural vehicles to facilitate students in attaining the key learning objectives of Design 6.

Cheah Kok Ming
Level 6 Studio Leader, Unit 1 Leader

Joseph Lim Ee Man
Unit 2 Leader

Ong Ker-Shing
Unit 3 Leader

Image credit: Backdoor 21 by Michael Wolf