ARCHITECTURE AND SUSTAINABLE DESIGN
Design goes beyond aesthetics – it transforms the way we live. The power of design is deeply rooted in understanding the human experience and needs, and then creating innovative products, services and systems to meet and improve them. That’s why forward-thinking companies and nations are investing heavily in design to drive innovation and growth.

Architecture is currently undergoing fundamental changes as it transitions into the digital era. Constraints on resources, environmental changes and the rapid urbanisation of the world require innovative methods and new forms of practicing architecture.

Architecture and Sustainable Design’s (ASD) innovative curriculum focuses on this changing reality, as it prepares you for the immediate and future needs of architecture.

Our particular geographic position in Asia and interdisciplinary collaboration with the other SUTD programmes provide a unique platform for addressing some of the most pressing design problems in architecture and urbanism today.

ASD students are the architects and urban designers of the future. They don’t just build structures – they build better communities and a better tomorrow through the power of design and technology.

RESOURCES CONSTRAINTS
Necessitates a radical rethinking of the traditional skills and trade-based production of the built environment. Advances in digital design and fabrication, such as 3D and 4D printing, numerically controlled milling, nano-materials, composite materials and additive fabrication, combined with digital mass-customisation techniques provide resource-efficient opportunities and lower production costs.

ENVIRONMENTAL CHANGES
Demands a more ecological approach to the sustainable design of architecture and cities: digital data harvested from local sensor networks, satellites and crowd sourced information will feed the simulation of environmental forces and conditions such as wind flows, sun orientations, topographies and human traffic.

RAPID URBANISATION
The coming decades will add three billion people to urban populations, an amount equal to all city dwellers today. This calls for sustainable architectural and urban solutions at an unprecedented speed and scale, demanding the use of digital tools in architectural and urban design.
### A Forward-Looking Curriculum

You will develop solid skills in the most cutting-edge digital tools, applying computational thinking, parametric design and AI to architecture in order to solve increasingly complex design challenges.

In your first three Freshmore terms, you will be introduced to architecture tools and concepts, beginning a “virtual studio” right from the start with the advantage of an interdisciplinary perspective.

On top of your ASD subjects, the exposure to engineering disciplines and the courses you will take in Humanities, Arts and the Social Sciences (HASS) lead to a unique technological imagination.

The Design Studio sequence is at the heart of the programme and distinct to architectural education. Subjects fall into four areas of focus:

- Studio
- Building Technology
- Design Computation
- History, Theory & Culture

### Learning Outcomes of ASD Core

- Think critically
- Design through enquiry, reflection and invention
- Directly experience construction
- Understand the technical demands of building
- Think digitally and physically through drawing, making, writing and speaking
- Be socially, sustainably and ethically responsible

---

### ASD Curriculum

<table>
<thead>
<tr>
<th>JAN - APR</th>
<th>MAY - AUG</th>
<th>SEP - DEC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERM 1</strong></td>
<td><strong>TERM 2</strong></td>
<td><strong>TERM 3</strong></td>
</tr>
<tr>
<td>Modelling &amp; Analysis</td>
<td>Physical World</td>
<td>Computational Thinking for Design</td>
</tr>
<tr>
<td><strong>TERM 4</strong></td>
<td><strong>TERM 5</strong></td>
<td><strong>TERM 6</strong></td>
</tr>
<tr>
<td>Modelling Space &amp; Systems</td>
<td>Technological World</td>
<td>VACATION/ SUMMER PROGRAMME</td>
</tr>
<tr>
<td>Science for a Sustainable World</td>
<td>Any Two Electives*</td>
<td></td>
</tr>
<tr>
<td>Design Thinking &amp; Innovation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **TERM 8** | **TERM 9** | **TERM 10** |
| SUTD Core: Freshmore subjects + Capstone |
| **TERM 8** | **TERM 9** | **TERM 10** |
| Sustainable Design Option Studio 1 | Architecture Core Studio 3 | Graduation |
| Elective | Architectural Energy Systems | Thesis |
| Elective | Building Information Modelling | Structured Internship |
| Elective |

| **TERM 9** | **TERM 10** |
| Sustainable Design Option Studio 2 | Graduation |
| Capstone | Master of Architecture |
| Artificial & Architectural Intelligences in Design (History, Theory & Culture) | Thesis |
| Elective | Professional Practice 2 |

---

Information is subject to change. Visit asd.sutd.edu.sg for latest updates.

---

*A Term 3 Electives: Science and Technology for Healthcare, Data Driven World, Designing Energy Systems, Spatial Design World*
CAPSTONE & OPTION STUDIOS
In Terms 6, 7 and 8, you will be able to choose from a number of Option Studios and Capstone Studios. They represent culminating projects for the Bachelor of Science in Architecture and Sustainable Design programme, offering you the opportunity to work on real world problems individually and in interdisciplinary cross-pillar teams.

ELECTIVES
Several electives are offered to address emerging challenges such as critical resource constraints, the need for energy-efficient and livable housing, rapid urbanisation, transportation planning, historical conservation and land use transformations.

BACHELOR OF SCIENCE
Upon completing eight terms, you will graduate with a Bachelor of Science (Architecture and Sustainable Design). Our unique programme structure and hands-on approach to architecture equip you with the necessary mix of hard skills and creative thinking to face future challenges in society and architecture.

GRADUATE SCHOOLS
ASD’s rigorous technical training prepares you for various post-graduate programmes. Other than the SUTD Master of Architecture programme, our ASD graduates are also enrolled at top universities such as:

• École Polytechnique Fédérale de Lausanne
• Harvard Graduate School of Design
• Massachusetts Institute of Technology
• Yale University
MASTER OF ARCHITECTURE

The Master of Architecture consists of a structured internship and two additional terms comprising an advanced design and research studio, an elective, thesis preparation and thesis.

ASD is accredited for the Master of Architecture as a professional degree programme by the Singapore Board of Architects. The intent is to equip ASD graduates and qualified students from other architecture schools with the best foundation for practising architecture nationally and internationally, providing a high level of technical competency and scientific knowledge while being attuned to the business opportunities and cultural contexts that will make their design projects meaningful and sustainable.

ASD graduates will be prepared for positions in:

- Architecture
- Urban design
- City planning
- Digital fabrication and design
- Computational architecture and design
- Environmental design
- Construction management
- Real estate development
- Architecture research and design
- Future cities research and design
- Post-professional masters
- PhD programmes

MASTER OF SCIENCE IN URBAN SCIENCE, POLICY AND PLANNING (MUSPP)

Offered by the Lee Kuan Yew Centre for Innovative Cities (LKY CIC), the Master of Science in Urban Science, Policy and Planning (MUSPP) is a 12-month intensive programme featuring an integrated and multi-disciplinary curriculum aimed at training the next generation of urban researchers and practitioners grounded in urban theory, skilled in urban analytics, and trained in urban planning and policy thinking. Through the programme, you will learn to apply appropriate research methods to understand urban phenomena, critically analyse and evaluate issues, and create robust planning and policy interventions.

Graduates have secured positions in:

- Urban planning and development
- Economic development
- Community development
- Public administration and policy-making
- Civic technology
- Business and finance
- Education and research
- Urban analytics and data science
A SELECTION OF STUDENTS’ WORK, RECOGNISED BY INTERNATIONAL AWARDS

Jacques Rougerie Foundation International Architecture Competition 2019, Coup de Coeur Award

A Living Organism: Design for the End of the World by Nabila Larasati Pranoto, Master of Architecture, Class of 2019

ARCASIA Thesis Of the Year 2021, Gold Award

The Makers Museum by Chia Sheng Wei, Master of Architecture, Class of 2021

Global Design Graduate Show 2021, Architecture Category Winner

theCharette 15-minute City Urban Design Competition 2021, Third Place

Moving Capitals: Redefining Urban Habitats by Michelle Gouw, Master of Architecture, Class of 2021

Fentress Global Challenge 2021, Third Place

Aviation 2050: Imagining Future Adaptive Antifragile Airport Terminals by Tan Gee Yang, Master of Architecture, Class of 2021
SUTD’s integrated learning pedagogy is highly relevant to the practice of architecture which demands a holistic, highly collaborative and outcome-driven approach; and the ASD curriculum that drives impact through technological innovation, plays a critical role in bridging skills gap in the built environment sector.

DP’s partnership with SUTD began in 2010 and has continued to strengthen over the years. The ASD graduates who join DP stand apart because of their solid grounding in a sustainability and technology-focused design education. Their versatility to adapt to new ideas and the changing landscape is noteworthy. The high quality of ASD graduates entering the profession is the result of the programme’s continued focus in pushing design innovation in sustainable architecture and nurturing future tech-enabled leadership.

Seah Chee Huang
Chief Executive Officer, DP Architects

You will have a chance to be personally mentored by top practicing architects from architectural firms such as DP Architects, FARM Architects, Ling Hao Architects, MKPL Architects and RSP Architects during your course of studies.

ARCHITECTURE FIRM
EMPLOYERS OF ASD GRADUATES

- architects61
- AWP
- CPG Consultants
- DP Architects
- Formwerkz Architects
- Gensler
- K2LD Architects
- Kaizen Architecture
- MKPL Architects
- ONG&ONG
- RSP Architects
- S A Chua Architects
- Sembcorp Architects & Engineers
- Tierra Design Studio
- W Architects
- WOHA Architects
I have seen an incredible range of projects from the SUTD master’s programme and I am very impressed with its students.

Their in-depth research of design and its applications was capable and disciplined as they dealt with issues that not only included local constraints, but also the global environment. I saw a variety of thesis projects discussing cities such as Detroit and continents such as Antarctica.

Their understanding and problem solving skills regarding architecture specific to a location proved most promising. For me that is a real thesis project. I am thankful to have participated in a lively and dynamic dialogue with the SUTD students.

Hsinming Fung
Principal at Hodgetts + Fung
Director of International Programs at SCI-Arc

I am very excited about the production of the work and especially the studio that instructors Federico and Eva have run and also because it is a specific type of research that is hard to find in other schools of architecture. It is research that talks about large-scale projects, territories and landscapes which I think is very important for the role of young designers, students who are opening up ways and ideas to the professional world.

What I have seen here is the idea that architects can work at a larger scale and have a role, a really interesting and relevant role in shaping large territories.

Alfredo Ramirez
Co-Director of Masters Programme at the Architectural Association School of Architecture, Landscape Urbanism
Founding Director, GroundLab London, UK

I really appreciate the variety of works here. I think that every scheme has a distinct identity and that is something very exciting.

Overall, the spirit seems to be very experimental and it speaks of the direction that the school is taking which I think is a very good thing.

Kelley Cheng
Creative Director, The Press Room
Editor-in-Chief, Singapore Architect (2009-2016)

Design in architecture is all about creating possibilities within limitations and constraints. ASD has offered an interdisciplinary approach in learning aspects of the built environment and beyond. By exposing us to digital tools, we are challenged to push the limit in design thinking and problem-solving.

The ASD experience goes beyond theory and applying learnt concepts in projects. The wide variety of projects and programmes gives us the opportunity to collaborate with designers, engineers, and industry partners. On top of gaining technical knowledge, the journey gives us the confidence to explore and be grounded at the same time. Through the well-rounded curriculum and faculty, SUTD has prepared us with a future-ready mindset to approach real-life issues in the industry.

For my thesis project, with the comprehensive guidance of faculty in research methodology, I had the opportunity to explore Indonesia’s new capital and redefine sustainable urban architecture for Indonesia and beyond.

Michelle Gouw
Designer, ONG&ONG
Class of 2020, ASD Master of Architecture Alumnus

ASD was truly an eye-opening and exciting programme for me. With the guidance of a diverse and technically versatile faculty, and an environment where one is not afraid to fail, students are given the opportunity to develop a keen sense of design that incorporates various fields of knowledge, especially in the use of the latest technologies.

ASD is a course for the brave, and risk-takers, and through the various studios and electives over the trimesters, students quickly learn to develop ideas that challenge the norm, in a clear, logical manner. As long as one is eager to learn, and with the right attitude, there really is no limit to what is possible with regards to pursuing one’s interests in the field, particularly in the Master of Architecture programme. I have high hopes that my peers and I have the potential to continue to push boundaries even after graduation.

Chia Sheng Wei
Computational and Architectural Designer, Type0 Architecture
Class of 2020, ASD Master of Architecture Alumnus
GLOBAL EXPOSURE

In January each year, students are free to pursue their personal interests. During this Independent Activity Period (IAP), some ASD students choose to use their skills to contribute to the world or to gain more exposure through overseas workshops. In Terms 6 and 8, certain Option Studios provide you with international opportunities to broaden your horizons.

- **SWISS IAP: SWISS INNOVATIONS**
  - Studied Swiss innovations in Basel’s distinctive spaces.
  - Explored potential sites for a hospitality space through the use of data.

- **JAPAN STUDIO: INUJIMA LIFE BOTANIC GARDEN**
  - Collaborated with Sejima and Nishizawa Architecture Atelier (SANAA) and Japanese architect Kazumi Kudo.
  - Conducted research on Pritzker Laureate Kazuyo Sejima’s “Inujima Life Botanic Garden”, a project that focused on new ways of living in the small island community of Inujima.

- **JAPAN IAP: MEASURING THE UNMEASURABLE**
  - Examined and analysed different types of data to better understand the utility of spaces in the Kansai region.
  - Explored various sites including an observatory building, restored machiya guesthouses and art house projects on Inujima guided by the architect herself, Kazuyo Sejima.

- **VENICE STUDIO: ANDREA PALLADIO**
  - Learned about the great Renaissance architect Andrea Palladio (1508-1580) and experienced his architecture in Venice.
  - Studied the relevance of Palladian architecture in our modern context, and how to apply the values of scale, proportion and hierarchy to meet the needs and challenges of architecture.

- **VIETNAM IAP: COMMUNITY DESIGN AT HANOI**
  - Building on an earlier community design project in Ho Chi Minh City (2014-2015), SUTD OLab embarked on a new community design project in Hanoi, in partnership with World Vision and CapitaLand.
  - Designed a safe learning and playing compound for a new kindergarten in Le Xa, encouraging local children to go to pre-school and receive proper nutrition and education.
  - Conducted research and a co-design workshop with teachers and residents.
  - CaptiaLand constructed the final design in May 2018.

- **VIETNAM STUDIO: BAMBOO IN FORMATION**
  - Investigated the creative uses of bamboo in architecture.
  - Analysed examples of bamboo architecture, met the architects, and visited the villages where the material is farmed and processed.