SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

ARCHITECTURE AND SUSTAINABLE DESIGN

HOW CAN YOU SHAPE SPACES THAT PUT PEOPLE FIRST?

HOW MIGHT AI HELP US LIVE, WORK, AND CONNECT MORE MEANINGFULLY?

ASD



WHAT IF YOU CAN DESIGN CITIES THAT EVOLVE WITH THE PEOPLE WHO LIVE IN THEM?

CAN Design·AI HELP YOU TO PRESERVE THE PAST YET DESIGN WHAT'S NEXT?

SUTD.EDU.SG/ASD

TRAILBLAZING A BETTER WORLD BY DESIGN.

OTHERS TEACH AI AS A TOOLSET. WE TEACH AI AS A MINDSET.

AI alone is just deep tech. Design·AI at SUTD goes further—a bold integration of AI with a holistic view of design, embracing creativity, ethics, empathy, critical thinking, purposeful action, and a commitment to solve human and societal challenges.

At SUTD, you'll learn when to harness AI, when to refine it, and when to rethink it—guided by human-centred design. Because real innovation isn't just about smarter tech—it's about solutions that really matter.

REDESIGNING ARCHITECTURE —THE SUTD WAY

Think architecture and chances are the image of buildings and other physical spaces will come to mind. But why let the human mind restrict you? With the incredible advent of AI—powering creativity and driving breakthroughs—the future of architecture and the potential of architects are limitless.

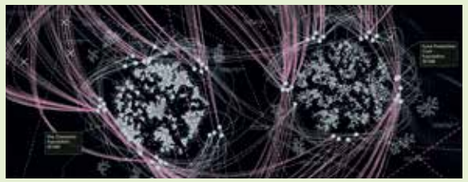
Reshaped by advanced technologies, new materiality, and advanced intelligence, we are now able to create human-centric spaces like never before—bound only by the potential of infinite possibilities.

Like their peers in all other majors, ASD graduates won't just be "bilingual" with expert domain knowledge and AI, they'll be effectively "trilingual"—using Design·AI, you don't just design spaces, you'll create spaces that'll evolve with the people who live, work and play in them.

UNLEASH YOUR CREATIVITY: A UNIQUE PROGRAMME BLENDING ARTS AND SCIENCE

Unleash your creativity to address the world's most pressing challenges through our interdisciplinary curriculum that merges art and science. ASD empowers you to think beyond boundaries to create innovative designs that address the following themes:

- The exponential increase in global population
- Environmental degradation and climate change
- Well-being and regenerative urbanism
- Social inequities and systemic challenges
- The disruption and elimination caused by advancing technologies
- Transcendentals: Truth, Love, Goodness, Unity, Beauty



Forward-thinking, challenging, and supportive—SUTD's Bachelor of Science (Architecture and Sustainable Design) programme has **equipped me with the skills to navigate emerging technologies and manage complex projects.** Along the way, I've been enriched by a vibrant and supportive community of students, staff, and faculty.

+++ Riccia Lim
Class of 2024, ASD Bachelor of Science Alumna
SUTD-Duke-NUS Special Track

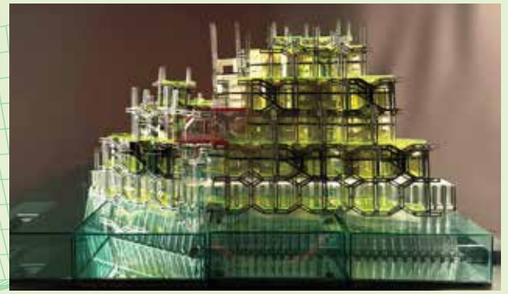
THE FIRST Design·AI UNIVERSITY FOR THE NEW WORLD

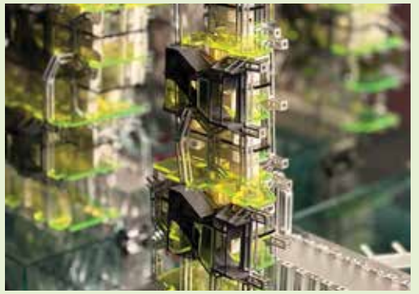
Design·AI IS IN ALL SUTD PROGRAMMES —SPANNING EDUCATION, RESEARCH, AND ENTERPRISE.

A CURRICULUM FOR THE NEW WORLD

Over your first three Freshmore terms, you'll build a strong foundation in Science, Mathematics and Technology (SMT), Humanities, Arts and Social Sciences (HASS), and Design·AI through our reimagined Freshmore curriculum. From day one, courses integrate Design with AI to strengthen both technical depth and human-centred skills, giving you the solid foundations and readiness not only for your ASD major but also for life beyond graduation.

New options in key Freshmore courses let you tailor your journey to match your interests: the (E) option for courses with a stronger focus on engineering applications, or the (S) option for courses with a stronger focus on social sciences applications. ASD students can take either the (E) or (S) option. This flexibility ensures you can pursue a customised path that aligns with your interests and strengths, helping you thrive at SUTD and prepare for an excellent career. *(See ASD Curriculum table for details.)*





In the ASD programme, you will gain cutting-edge skills and access to transformative tools, including:

- Computational spatial-temporal material and prototyping
- AI mastery and creation
- Transnational analysis and mapping
- Critical thinking and creative visioning to shape impactful and sustainable solutions

You'll join a global creative community, benefitting from:

- Evidence-based methodologies
- Leadership development that integrates with thought leaders and innovation
- Immersive maker culture with cutting-edge machines
- Latest experimental projects and approaches
- Programme that integrates executive foundation of understanding human development

In addition to your ASD subjects, you'll continue to take courses in HASS and Design·AI, that will prepare you to be a new kind of architect—one that embraces the cultural and social context of technology in the new world.

Every undergraduate works on at least 20 design projects at SUTD, culminating in a two-term Capstone project in the final year. This allows you to collaborate with students from other majors and apply the skills you've mastered in ASD and Design·AI to either a client-sponsored industry project or your own entrepreneurial venture, tackling real-world challenges. By graduation, you'll have built an extensive portfolio of industry-inspired work, well-prepared for your career journey.

The biggest takeaway is **the development of critical thinking and problem-solving skills.** It enhances our ability to solve problems in our daily work, especially valuable during integrated projects, where numerous activities occur simultaneously in a confined space under tight constraints.

+++ Edison Ng
Class of 2020, ASD Master of Architecture Alumnus

ASD CURRICULUM

JAN-APR	MAY-AUG	SEP-DEC
Freshmore Subject Core Subject Elective Capstone	Y1 Y2 Y3 Y4 M.Arch	**TERM 1** Innovating with Design & AI 1 Introduction to Programming Calculus Sustainability: Science & System Thinking Introduction to Social Sciences/Global Humanities
TERM 2 Innovating with Design & AI 2 Algorithmic Thinking & Object-Oriented Programming Linear Algebra & Multivariable Calculus **(E or S)** Physics Principles & Applications 1 Introduction to Social Sciences/Global Humanities	**TERM 3** Innovating with Design & AI 3 Introduction to Machine Learning Introduction to Probability & Statistics **(E or S)** Any Two Electives*	**VACATION**
TERM 4 Architecture Core Studio 1 Architectural Structure & Enclosure Design Digital Design & Fabrication Modernisms (History, Theory & Culture)	**TERM 5** Architecture Core Studio 2 Architecture Science & Technology Building & Urban Analytics Traditions (History, Theory & Culture)	**VACATION/ INTERNSHIP/ EXCHANGE**
TERM 6 Architecture Core Studio 3 Architectural Energy Systems Creative Machine Learning Architectural Theory & Design	**VACATION/ INTERNSHIP/ SUMMER PROGRAMME**	**TERM 7** Sustainable Design Option Studio 1 Capstone Elective Elective
TERM 8 Sustainable Design Option Studio 2 Capstone Elective Elective	**GRADUATION** BACHELOR OF SCIENCE (ARCHITECTURE AND SUSTAINABLE DESIGN) **STRUCTURED INTERNSHIP**	**TERM 9** Graduate Design Studio Thesis Preparation Professional Practice 1 Elective
TERM 10 THESIS Professional Practice 2 Elective	**GRADUATION** MASTER OF ARCHITECTURE	

***Term 3 Electives:**

- Design Computation
- Designing Sustainable Energy Solutions
- Freshmore Design Studio
- Introduction to Discrete Mathematics
- Introduction to Healthcare Technology
- Introduction to Human-Centred Design
- Physics Principles & Applications 2
- Qualitative & Quantitative Research Methods

Students are guided on electives that match their learning interests, while retaining the flexibility to chart their own path.

- In addition to all subjects in Term 1 being grade-free (Pass/No Record), students can choose up to four more subjects from Terms 2 and 3 to be grade-free.
- Students will declare their choice of major at the end of Term 3.

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

ASD CORE SUBJECTS

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

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

From your very first ASD subjects, Design·AI is woven into how you learn and create—spanning AI awareness from ethics to governance, to AI application, right down to creation.

Courses such as Creative Machine Learning run the whole gamut —you'll be curating datasets, selecting and training the machine learning models to finally generating designs from the learnt data distribution. Gaining the practical experience of applied machine learning workflow and more importantly, the architectural sensibility and human-centred perspective to conceptualise, articulate and implement your design applications in relation to AI tools.

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**
- **Confidence in creative expressions**

ELECTIVES

Diverse 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.

DOUBLE YOUR MAJOR, YOUR IMPACT.

To acquire more in-depth human-centred Design·AI expertise, ASD students have the option to pursue the **Human-centred Domain Intelligence (HDI) Second Major**.

REQUIREMENTS

- 2 DAI studios **OR** 1 DAI studio **+** 1 DAI course
- 2 AI courses (own major) **+** 1 AI course (can be from another major)
- 3 HASS HCD courses

DAI – Design and Artificial Intelligence
HCD – Human-Centred Design
HASS – Humanities, Arts and Social Sciences

SCAN TO FIND OUT MORE

Right from the first term, the pedagogy encouraged self-discovery and self-learning under the guidance of tutors. **This made me more resilient and confident in meeting the ever-changing demands of the work environment.** Exposure to cutting-edge tools and technology also provided me with **confidence to learn and adapt to new technologies**.

+++ Megan Riri Moktar
Class of 2022, ASD Master of Architecture Alumna

INTEGRATED ARCHITECTURE PROGRAMME

ASD's Direct Pathway to Masters offers a unique opportunity to graduate with both a Bachelor's and Master's degree in architecture. This allows you to immerse yourself in a collaborative research environment engaging with top globally recognised domain experts in the respective labs such as:

- **AIRLAB (Architectural Intelligence Research Laboratory)**
- **Artificial-Architecture.AI**
- **Advanced Architecture Lab**
- **formAxioms**
- **Centre for Climate Adaptation**
- **Meta Design Lab**
- **Robotics Innovation Lab**

Our curriculum seamlessly integrates design, technology, and research to prepare you for a dynamic career in architecture and beyond.

LAUNCH YOUR CAREER ON A GLOBAL STAGE

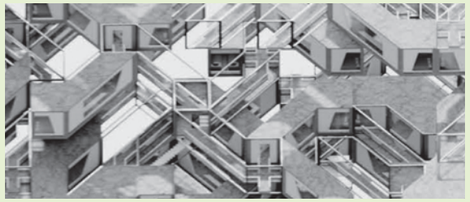
Our graduates have achieved remarkable success in diverse fields, including:

- Pursuing postgraduate programmes at Massachusetts Institute of Technology, Harvard, and other prestigious institutions.
- Leading award-winning architectural firms and design projects
- Shaping urban landscapes as urban planners and policymakers
- Innovating in emerging tech enterprises
- Creating meaningful impact as social entrepreneurs and thought leaders
- Become a full-fledged Architect accredited by the Board of Architects
- Expanded possibilities from the mastery of spatial AI including opportunities in the virtual space and emerging industries
- Networking with global thought leaders
- Field trips and exchange programmes to diverse geographies and locations

Beyond Architecture: Expanding Possibilities
Studying architecture doesn't limit you to becoming an architect, it opens up an entire world of opportunities. The rigorous, interdisciplinary training at ASD nurtures creativity, systems thinking, and problem-solving skills that are relevant far beyond the built environment.

Our graduates are shaping industries, communities, and innovations across diverse fields, proving that architectural thinking can drive change wherever design, technology, and humanity intersect.



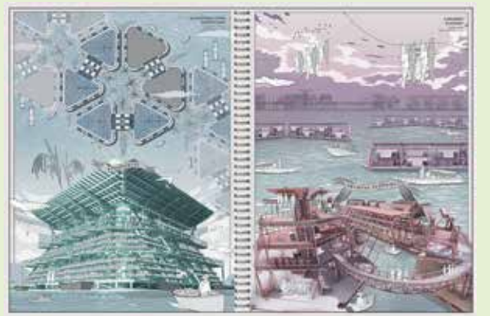


Positions held by our graduates include:

- Architect (Town Planning)
- Architectural Designer
- Architectural Executive
- Business Sustainability Analyst
- Community Manager
- Communications and Design Officer
- Computational 3D Modeller
- Computational and Architectural Designer
- Computational Design Executive
- Creative Technologist
- Design and Fabrication Lead
- Design Computational Designer
- Design Engineer
- Design Innovator
- Design Technologist
- Entrepreneur / Co-founder
- Environmental Designer
- Experience Designer
- Executive Architect
- Executive Computational Specialist
- Facade Designer
- Fine Jewellery Designer
- Full Stack Developer
- Graphic Designer
- Interior Designer
- Landscape Architect
- Landscape Architecture Designer
- Master Planner
- Production Designer
- Project Design Technology Lead
- Project Executive / Manager
- Researcher
- Senior Computational Engineer
- Social Research Analyst
- Sustainability Consultant
- Transport Planner
- UI/UX Designer
- Urban Planner
- Workplace Consultant

Studying in ASD inspired me to address the urban challenges and opportunities in my hometown. My thesis "Coastal Reform: Muara Angke 2100" envisions coastal Jakarta as an ecologically and socially sustainable city, **using design to position architecture as a framework for people and nature to sustain themselves and their culture in the face of climate change**.

+++ Lyvia Annabelle Simano
Class of 2023, ASD Master of Architecture Alumna



FuturArc Prize 2024 (Merit Award) for The Commons Cooperative: Sustaining the Commonwealth in Tonlé Sap, Cambodia by Ian Chung Enzhi



Janessa Kwan Su Hui, Undergraduate Class of 2026—Inaugural "Reimagine the Future of Hospitality with AI" competition by WATG Singapore (3rd Prize)

SELF DISCOVERY AND LEADERSHIP DEVELOPMENT

Experience a transformative educational journey that focuses on personal and professional growth:

- A unique culture that feels like a boutique establishment, fostering close connections and a sense of belonging.
- A high student-to-faculty ratio for personalised attention and support.
- An interdisciplinary approach to broaden your horizons and spark creativity.
- A creative environment that nurtures your authentic gifts, empowering you to cultivate good, beauty, and purpose in your work.
- Coaching and mentorship to help you identify and achieve your goals.
- Social engagement to improve environment to support the formation of communities.
- Close-knit community, enthusiastic and vibrant student life.
- Regional field trips for social missions and hosting of participatory design workshops.
- Growth potential in the rich course programming.

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**.

+++ Seah Chee Huang
Chief Executive Officer, DP Architects

The in-depth research on design and its applications was both thorough and disciplined, addressing not only local constraints but also global environmental factors.

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





A glimpse into The SUTD Master of Architecture Thesis Exhibition Review, where our students presented visionary projects to industry leaders, academia, and the international design community.





Project (ultra) Light Networks Pavilion by Associate Professor Carlos Bañón Redefining Possibilities: Breaking new ground in 3D printing and polymer-based design to craft tools and methods for elegant, responsive architecture.

The **close-knit community in SUTD is something that I don't experience elsewhere**. It's something that I really cherish and miss about SUTD. It's like being part of a village, get help from anyone, grow together through hardships and friendships.

+++ Jezamine Chua
Class of 2016, ASD Master of Architecture Alumna

GLOBAL EXPOSURE

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.
- CapitaLand constructed the final design in May 2018.

EXCHANGE PROGRAMMES WITH LEADING ARCHITECTURE SCHOOLS

- Aalto University, EPFL, Hanyang University, IE University, Shanghai Jiao Tong University, Tongji University and University of Seoul.



Students studying ancient waterways of Bali



Visit to Historic Assembly Hall at Austrian Parliament Building



Prof. Erwin Viray is addressing the room with SUTD and KIT students during traditional Kyoto-style lunch



Discussion of Studio Project with B-01 Architect Kaz T Yoneda

STUDENTS' EXCELLENCE ON THE GLOBAL STAGE: AWARD-WINNING WORKS



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



Fentress Global Challenge 2021, Third Place

Aviation 2050: Imagining Future Adaptive Antifragile Airport Terminals by Tan Gee Yang, Master of Architecture, Class of 2021

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