

Division of Industrial Design College of Design and Engineering



# Post Graduate Coursework

Master's of Design in Integrated Design

The Master's of Design in Integrated Design (MDes) is a launchpad for future design leaders. In today's complex, interconnected world, the focused 1-year programme empowers students to deepen their practice, think strategically, collaborate across disciplines, and drive meaningful change. Blending industry– focused studio projects with seminar-style learning, the MDes programme integrates areas like Service, Experience, Interaction, and Transformative Design. This dynamic approach equips students with the mindset and skills to drive innovation and create meaningful impact across business, public, and social sectors.



## MDes Course Structure

## Practice — Integrated Design Studios

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	Semester 1	Semester 2			
Practice In collaboration with industry partners	<sup>8 Units</sup> Integrated Design Studio 1	<sup>8 Units</sup> Integrated Design Studio 2			
	Close integration across practice & theory courses				
Theory Critical frameworks, methodolgies & thinking	<sup>4 Units</sup> Design Research Methods	<sup>4 Units</sup> Design Strategies & Leadership			
	<sup>4 Units</sup> Emerging Topics in Design	<sup>4 Units</sup> Collaborative Design			
Electives Rich selection of relevant topics	<sup>4 Units</sup> Unrestricted Elective (UE)	<sup>4 Units</sup> Unrestricted Elective (UE)			

The Integrated Design Studio offers a unique hands-on learning platform where students select from 2–3 real-world design briefs developed in collaboration with industry partners. Working in small, interdisciplinary teams, students are mentored by faculty and experts from partner organisations. Each semester brings new perspectives through fresh briefs spanning healthcare, hospitality, sustainability, technology, and more.

The following pages present an overview of this academic year's industry-based design briefs, along with selected student projects developed in response.

We believe that shaping designers and creative leaders requires a multifaceted approach, combining practice-based studio projects with theory-rich seminars, fostering cross-disciplinary collaboration with industry experts, and grounding it all in critical thinking and rigorous design methodologies.





### Collaborators

Travel and tourism experts, including Changi Airport, Discova, and Samsonite

# Future of Travel

How will travel evolve over the next 20 years? In collaboration with travel and tourism experts, students envisioned what travel could look like in 2044, reimagining experiences, preferences, and behaviours in response to emerging technologies, societal shifts, and global challenges.

## Guest Lecture

### Esther Wong

## 7 Re-frames with Changi

Service Design Lead at Changi Airport Group Esther Wong shared how design at Changi Airport serves as a skill, a mindset, and a bridge to business goals. She offered students a behindthe-scenes look at how one of the world's leading airports creates user-centric experiences and continually evolves to stay ahead.





### Beyond

As space travel shifts from fiction to reality, dining becomes a key site of sensory, emotional, and social engagement. This project reimagines space dining for high-net-worth passengers with curated zero-gravity meals and Al-driven customisation, exploring new paradigms of Human-Food Interaction beyond Earth.

Pengyu Zhu (Aaron), Ryan Chin Qingfeng





# **Future Visitor Experiences** at Mandai Wildlife Reserve

How might we craft meaningful and unique experiences for the diverse visitors of Mandai Wildlife Reserve? As one of Singapore's iconic nature destinations, Mandai wants visitors to connect deeply with animals and nature across its five parks. In this studio, students explored innovative ways to enhance these connections and enrich the visitor experience.

## **Guest Lecture**

Suyin Lee

### Managing Director at Discova

### **Emerging Trends In Travel Experiences**

Suyin Lee brought the future of travel and tourism to life in her guest lecture, sharing valuable insights on emerging industry trends and key traveller archetypes. Together with her, the students explored real-world operational challenges and how to deliver great experiences across the complex travel and tourism supply chain.

## **Tourists' needs**

- Easily making decisions before visiting
- Maximize the use of time for sightseeing and play
- More interactions with animals-kids-parents
- Interesting form of saving/ sharing tour memories

## Mandai's goals

- Enhance visitors' experience in the zoo
- Attract different types of users to the experience
  - Biodiversity
- Sustainable green development



## Enhanced Decision-Making Experience for Children and Parents

Planning a visit to Mandai's wildlife parks can be overwhelming. This project turns it into a playful, engaging experience through a gamified app add-on. Kids and parents collaborate to customize their visit, build excitement before arrival, and form deeper connections with animals during their stay. Afterward, they receive a personalised digital memento, making memories throughout.

Wang Han, Zhang Ruoyao, Lu Yijun





Collaborators National University

Hospital (NUH), Schaeffler

# Future Maternity Ward Experience at NUH

How might we make maternity care more human-centric while integrating cutting-edge technology? In this studio, students collaborated with NUH's maternity ward and Schaeffler to reimagine the maternity journey, blending advanced medical technology with human-centered services to better support mothers and healthcare staff.

### Workshop

## **Qualitative Research Analysis in Healthcare**

Professor Carolina Gill & Associate Professor Kelly Umstead

College of Design, North Carolina State University Professors Carolina Gill and Kelly Umstead led an engaging workshop on qualitative research analysis in healthcare. The session provided the students with a comprehensive framework and real-life examples for conducting qualitative design research in healthcare, covering observational research methods, data analysis strategies, and translating findings into actionable design solutions.



## **Observe and learn**



## MIMI – Your Personalised Postpartum Care Companion

MIMI is an interactive patient education ecosystem designed to support mothers and their partners during the postpartum journey. Like an experienced mom by their side, MIMI empowers families through a digital booklet, a responsive chat interface, and a bedside mirror, offering timely guidance, reassurance, and hands-on breastfeeding practice.

Anagha Ramesh, Liu Haoyue, Su Ruoying





## Ask and learn

## **Interact and learn**





Collaborators Greengrounds, The Young

# Brownfields to Greengrounds – Sustainable Food System in Singapore

How might we redefine food production, consumption, and value to shift Singapore towards a more sustainable food ecosystem? In collaboration with Dutch experts Greengrounds and The Young, students explored branding, experience design, and community engagement strategies to reshape how food is perceived and consumed, driving a shift in consumer behaviour.

## Workshop

### Susan Evans

# Co-designing for innovative systems design in a circular economy

Scholar at The Hong Kong Polytechnic University This workshop focused on co-designing innovative systems in a circular economy to improve the well-being of both people and the environment. MDes students, along with undergrads and PhDs, joined this interactive session. Students gained hands-on experience with co-design methods and systems design tools, exploring real-world interventions and success metrics for holistic transformation.



## WorthCycle: Turning Waste into Worth in a Circular Future

WorthCycle is a community-driven design initiative in Singapore that reimagines food waste as a valuable resource. Through popup exhibitions and a hawker center farming challenge, it aims to raise awareness of circular thinking, engage the local community, and empower them to take action and co-create a sustainable, regenerative urban food ecosystem.

Yao Yiming, Zhang Xingyang



## **Theory and Methods**



In focused theory-based seminars, students build a solid foundation in design strategy, leadership, and research methods, engaging with critical frameworks and emerging topics to tackle real-world challenges.

# Design Research Methods

### Instructors

Clement Zheng, Jung-Joo Lee

To solve the wicked problems of contemporary societies, designers must navigate complex situations through immersive exploration of people, systems, and environments. Design Research Methods introduces students to a range of methodologies and epistemology to help them select, adapt, and create appropriate outcomes based on project needs.

Guest Lecture Des Naroth Murali Key

Design Research in Industry: Key Facts and Insights

Senior UX Researcher at Meta



# Emerging Topics in Design

Instructors Karin Aue, Janghee Cho

As our world becomes increasingly complex, so do the problems designers face. The role of design is shifting, and new mindsets, philosophies, and approaches are crucial to expanding contemporary design practice and responding to the current polycrisis. In this course, students explore emerging topics relevant to design practice, such as Systems Thinking, Value–sensitive Design, Futures Thinking, or Design Justice.

# Design Strategies & Leadership

Instructor R. Brian Stone

Contemporary organisations recognise design strategy and leadership as a key driver of tactical thinking and competitive advantage. Together, they enable the creation of effective products, services, and communication aligned with user needs and business goals. Design Strategies & Leadership builds a foundation for applying these principles in diverse business contexts through contextual understanding, divergent thinking, and interdisciplinary collaboration.

# Collaborative Design

Co-creative practices engaging users and stakeholders are vital today. Collaborative design values all participants as creative contributors, with co-design tools enabling collaboration across diverse backgrounds. In this course, students explore collaborative design principles and techniques, while examining design's role in service systems, circular economy, and socio-organisational transformation.

### **Guest Lecture**

Se Young Kim

Experience Strategy Officer at LN Robotics, South Korea

Former Senior Experience Lead at Philips Experience Design, The Netherlands & APAC

#### Bow Yiying Wu

Lecturer at The University of Sydney School of Architecture, Design and Planning

### Transforming healthcare through design

With over a decade of experience in healthcare design, SeYoung shared key insights on how a human-centric approach drives transformation. A seasoned leader in strategic design, she excels at balancing strategy and execution across healthcare touchpoints, with global experience in Europe, the US, and Asia, collaborating with diverse stakeholders.

## Collaboration in Service Design: **Convivial Tools and Enabling Participation**

This guest lecture presents service design as a convivial tool for fostering participation, autonomy, and community engagement. It reframes service design beyond the businessoriented lens, positioning it as a social practice that prioritises relationships, collaboration, and care over mere transactions.



## **Unrestricted Electives (UE)**



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The academic experience is enhanced and personalised through a wide range of elective courses, allowing students to tailor their learning to their interests.



# Design for Healthy Living

## Instructor

Cees de Bont

Design for Healthy Living is about the psychological underpinnings of behaviour change directed to making improvements to people's physical and mental health. This includes: motivational theories, persuasion, decision making (including theory on consumer behaviour as well as on biases), positive psychology (flourishing), ecological psychology (affordances), mindfulness, and gamification.

# Interdisciplinary Ways of Knowing

## Instructor Janghee Cho

This course examines the principles of research design and diverse methods for designing social technologies. It explores epistemological orientations, ranging from positivism to constructivism and interpretivism, as well as critical perspectives. With a focus on Human– Computer Interaction (HCI), it covers core research methods vital for technology design. Through discussions and readings, students gain an understanding of the interdisciplinary nature of HCI and design research.

# Sustainable Innovation: Design & Transformation Strategies

Instructor Karin Aue

This course dives into the principles of sustainable innovation, focusing on circular economy and design-led strategies for business and transformation. Through hands-on activities, students envision sustainable product-service systems, apply life cycle thinking, and critically reflect on the mindset shifts needed to drive meaningful, sustainable transformations.

# Design Research Immersion Programme

## Instructors

R. Brian Stone, Christophe Gaubert, Jung-Joo Lee

The Design Research Immersion Programme offers students hands-on experience in academic research under faculty guidance. Students apply design concepts to real-world challenges, develop research questions, use appropriate methods, analyse data, and collaborate with academic and industry partners to produce a well-documented research report.

# Independent Study for Graduate Design Research

Instructor DID Faculty

Independent Study for Graduate Design Research allows students to explore a self-defined topic in depth, guided by a faculty supervisor. Through tailored readings, assignments, and regular check-ins, students engage in self-directed research that pushes the boundaries of design theory and practice.

## Graduate Certificates

Alternative Pathway to a Master's in Design

# Design Discovery & **Emerging Topics**

An 8-unit course programme, offered exclusively in the August semester

$\rightarrow$ Develop critical thinking
and analyse complex
challenges through research
methodologies

 $\rightarrow$  Identify design opportunities and incorporating key trends, technologies, and innovative methodologies into impactful practice

	Semester 1	Semester 2	→ Set in a project-based, hands-on environment that	Semes
	8 Units	8 Units	simulates professional practice	8 Units
S	Integrated Design Studio 1	Integrated Design Studio 2	→ Tackle real-world challenges presented by industry partners and drive impactful change across industries and sectors	Integ Stud
	4 Units	4 Units		4 Units
	<b>Design Research</b>	Design Strategies		Desi
	Methods	& Leadership		Met
	4 Units	4 Units		4 Units
	<b>Emerging Topics</b>	Collaborative		Eme
	in Design	Design		in De
	4 Units	4 Units		4 Units
	Unrestricted	Unrestricted		Unre
	Elective (UE)	Elective (UE)		Elec

# Integrated Design

A 16-unit course programme, offered across the August and January semesters

ester 1

Semester 2

8 Units

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## egrated Design Integrated Design Studio 2

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4 Units **Design Strategies** & Leadership

ts nerging Topics Design

4 Units Collaborative Design

ts restricted Elective (UE)

4 Units Unrestricted Elective (UE)

## Graduate Certificates

Alternative Pathway to a Master's in Design

# **Design Leadership**

An 8-unit course programme, offered exclusively in the January semester

→ Learn to tackle business problems, strategise, and integrate design practices for effective solutions in real-world contexts, emphasising service learning

 $\rightarrow$  Apply Design Strategy and Design Leadership using Design Thinking and interdisciplinary collaboration

## Semester 1

8 Units Integrated Design Integrated Design Studio 1

4 Units Design Research Methods

4 Units **Design Strategies** & Leadership

Semester 2

Studio 2

8 Units

4 Units

4 Units **Emerging Topics** in Design

Collaborative Design

4 Units Unrestricted Elective (UE)

4 Units Unrestricted Elective (UE)

Alumni Testimonial



Jehru Ethan Harris

# "A key takeaway was how strategic design and design leadership can competitively differentiate companies and drive success."

"During the course, we explored valuable frameworks, tools, and theories for approaching various design challenges. A key takeaway was how strategic design and design leadership can competitively differentiate companies and drive success.

Exploring design-driven strategy and co-design with expert instructors and a diverse set of peers deepened my understanding of design, making this course impactful for anyone who is looking to grow in their design journey."



## What our alumni say



Zhu Pengyu (Aaron). MDes graduate AY 24/25

and work.

I'm especially grateful to Prof. Janghee, Prof. JJ, and Karin for their generous support and guidance throughout the programme. Their mentorship has allowed me to explore and grow in the areas I'm most passionate about. :)"

As the academic year ends, our MDes cohort marked the moment with a lighthearted graduation photoshoot, a well-earned pause after months of hard work, late nights, and teamwork. Here's to the journey so far, and to the exciting chapters still to come.



Celebrating the first graduating class of our Master's of Design in Integrated Design



Yao Yiming, MDes graduate AY 24/25 "Before joining the MDes programme, I had no background in Service Design—I was a complete beginner. But thanks to the guidance of our incredible professors, I've grown more confident and passionate in this field. I never imagined I could adapt so smoothly to a new design discipline, and it's all because of the strong mentorship I received.

I'm especially grateful to our programme leader, Karin-my 'design mom'-whose leadership gave me direction and encouragement. Prof. Jung-Joo Lee, my 'academic mom,' provided a clear and structured approach to service design that truly grounded my learning. I also owe much to Prof. Janghee Choo, my 'academic brother,' who supported me in developing research depth and critical thinking. And I cannot forget my 'life dad,' Prof. R. Brian Stone, whose real-world design wisdom has been invaluablelessons that no book or paper could offer.

"Hi, I'm Aaron. I'm thrilled to be part of the MDes programme, which has been instrumental in helping me shape my future direction in the fields of HCI and design research.

Through this journey, I've not only strengthened my professional skills but also significantly enhanced my storytelling and narrative abilities-skills that I believe will serve me well in many areas of life

This programme also helped me grow in collaborative environments, whether as a facilitator or a team member. I'm deeply thankful to have met this teaching family, who've not only guided my academic journey but also opened up new possibilities for my future career."

### Editor

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