

# New NUS centre to spur innovations in urban systems

It will use interdisciplinary approach on subjects like planning, governance of cities

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The National University of Singapore (NUS) opened a new centre on Thursday that plans to offer a new interdisciplinary major to turn students into thinkers who can come up with innovative solutions within complex urban systems.

The new major to be offered – NUS Cities – will tie together the disciplines of architecture, engineering and public policy, among others, to teach students how these various disciplines have interacted to create well-known examples of public spaces today.

The new centre, housed within the NUS College of Design and Engineering (CDE), will hold classes in subjects like the planning and

governance of cities – which will be taught interactively through case studies and role-playing.

The major and the new centre, which will also offer master's and potentially doctoral degree programmes on urban systems thinking, are part of NUS' broader push for interdisciplinarity.

The college was established in 2021 through the merger of the Faculty of Engineering and the School of Design and Environment.

The new major will be the 15th one offered under the CDE, and more details on the course will be announced at a later date.

NUS Cities director Khoo Teng Chye said the new major comes at an opportune juncture of global development. "More than half the world now live in cities... In South-

east Asia, only 30 per cent live in cities. In South Asia, it's also 30 per cent... So there's a lot of urbanisation going on, and this trend will only keep going up."

Singapore, despite its dense population, is an example of a liveable and sustainable city. The new programme will help it become a nexus of expertise in such city planning, Professor Khoo added.

"Singapore's strength is being able to come up with urban system innovations," he said.

He cited Bishan-Ang Mo Kio Park as an example. "To turn a drain into a naturalised river in Bishan-Ang Mo Kio Park, you need a water engineer to work with a landscape architect, not just an architect, or engineer... So we want to train students who are able to create solutions like that in future."

With the new centre, NUS has also retrofitted two buildings at the Kent Ridge campus with green architectural elements, such as a garden that does not need water-



With the new centre, the National University of Singapore has retrofitted two buildings (left) at the Kent Ridge campus with green architectural elements, such as a garden that does not need watering and naturally ventilated areas.  
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ring and naturally ventilated areas.

They exemplify the education that the centre seeks to provide its students and graduates, said CDE dean Aaron Thean.

Built in the 1970s, the retrofitted buildings – SDE1 and SDE3 – are among the oldest on campus, and have a combined gross floor area of around 24,000 sq m.

The new cluster that includes the centre will comprise SDE1, SDE3 and SDE4, and span more than 32,000 sq m. SDE4 is Singapore's first net-zero energy building to be built from scratch.

SDE1 and SDE3's embodied carbon footprint is estimated to be lower than a third of that for simi-

lar new construction. Embodied carbon refers to the carbon dioxide emissions associated with materials and construction processes throughout the life cycle of a building or infrastructure.

The building's total energy consumption after retrofitting is projected to be one-third of pre-renovation levels.

Professor Thean said: "This project also represents the next benchmark for renovation and sustainability for built environment in the future."

Deputy Prime Minister and Coordinating Minister for Economic Policies Heng Swee Keat was at the launch of the centre and reno-

vated buildings on Thursday. He said the effort to retrofit and improve the performance of existing buildings is crucial to decarbonising Singapore's built environment and meeting its net-zero goals.

Professor Heng Chye Kiang, the CDE's deputy dean of research and innovation, said that beyond environmental and educational considerations, retrofitting also preserves memories associated with an old space. "This building (the college) has produced generations and generations of architects who are responsible for building the landscape of Singapore today."

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