

# **NANJING UNIVERSITY SCHOOL OF ARCHITECTURE AND URBAN PLANNING**

- **MSc SUSTAINABLE BUILDING DESIGN**
- **MSc ARCHITECTURE AND URBANISM**





## • **MSc SUSTAINABLE BUILDING DESIGN**

### **I. General Introduction**

The aim of the MSc in Sustainable Design is to develop skills, knowledge and understanding related to sustainability in planning, design, construction, and management of different components of the built environment. It is intended that the degree will provide a challenging, exciting and dynamic learning experience, building on the students' existing experiences and backgrounds and drawing on the School's growing expertise and interest in sustainable development. Consequently, to augment the students' research and analytical capabilities appropriate for Masters level study in Sustainable Design, the overall objective is to develop critical thinking skills, analytical problem solving skills while bridging the gaps that may exist between academia and practice. The integration of expertise from across the different disciplines represented within the School is explicit and embedded within the compulsory and optional (elective) modules. A panel of industry experts will be formed to support the programme by providing support, guidance and placement opportunities.

The programme offers students the potential to develop highly sought skills in the development and assessment of sustainable design and construction projects. Successful graduates will be well equipped to apply the knowledge, expertise and skills acquired from this programme across a range of built environment professions. The programme is aimed at students with an undergraduate degree in a built environment or cognate discipline (e.g. architecture, civil engineering, planning, environmental sciences and other cognate science/ engineering disciplines). The degree will enable students to gain a general understanding of sustainable development supplemented by more specialized knowledge in key areas. The degree will be an excellent foundation for working on sustainable development projects in the built environment or for further study leading to the degree of PhD. The programme is multi-disciplinary by design, spanning the entire built environment professions represented within the School.

### **2. Research directions**

- (1) Green building and Eco-Urban
- (2) Sustainable building technologies
- (3) Renewable energy

#### (4) Architectural lighting

### 3. Course Enrollment

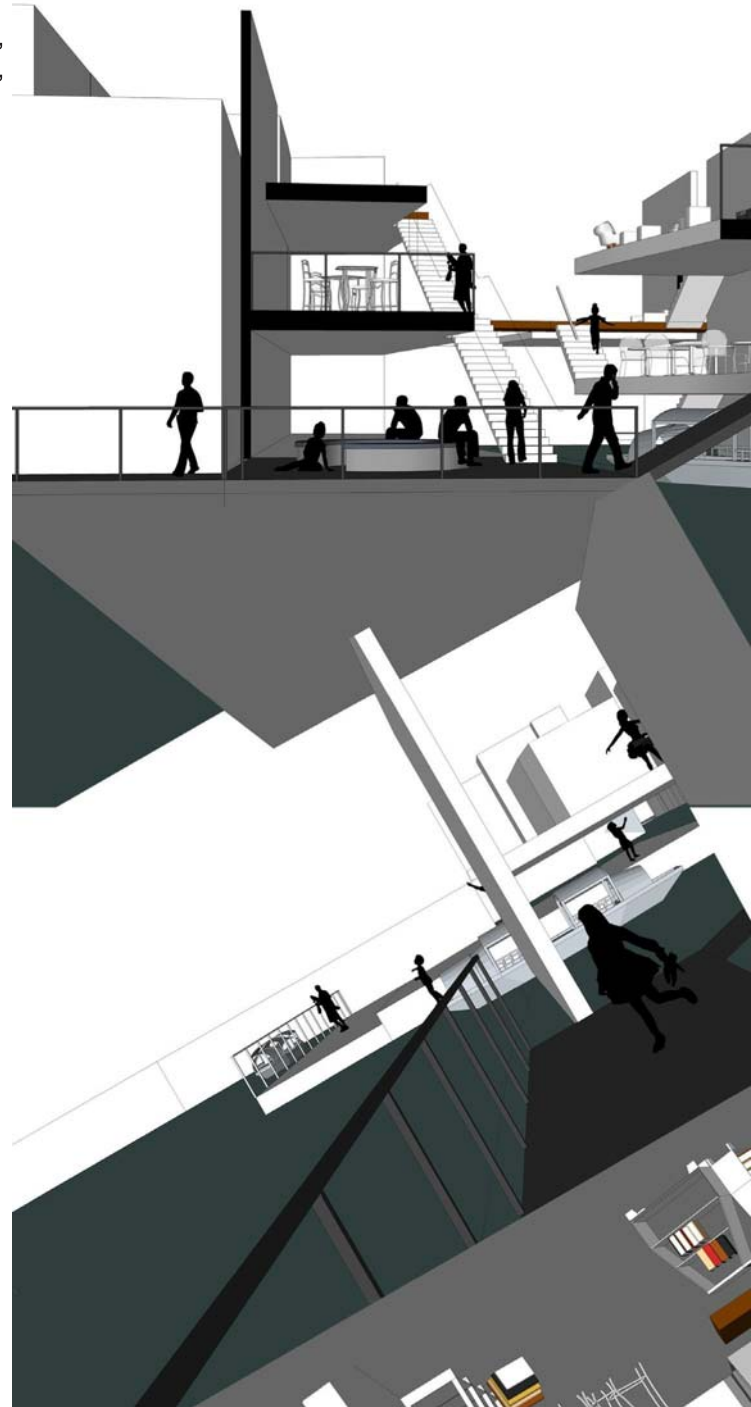
Students with a bachelor degree in Architectural design, Built environment and facilities, Thermal engineering, HVAC&R etc. could apply for this MSc

### 4. Duration

Three years, the last year is for preparing a dissertation.

### 5. Course structure

Compulsory modules	
B01 Architecture Theory	2 credits
B02 Urban morphology	2 credits
B03 Planning theory and practice	2 credits
B04 CAAD	2 credits
Compulsory modules	
C01 Advanced building technology	2 credits
C02 Energy efficient building design	2 credits
C03 Building system integration	2 credits
C04 Renewable energies	2 credits
C05 Green building and Eco-city	2 credits
Elective modules	
D01 Material and construction	1 credits
D02 GIS basic and application	1 credits
D03 Digital architectural design	2 credits
D04 Methodology of architecture design	1 credits
D05 History of Western architecture	1 credits
D06 History of Chinese architecture	1 credits
D07 Workshop 1	1 credits
D08 Workshop 2	1 credits
Total credits required: $\geq$ 32	



## 5. Sustainable Building Design Teaching and Research at Nanjing University

The MSc in Sustainable Building Design sits within the Centre for Sustainable Building Research (CSBR) in School of Architecture and Urban Planning at Nanjing University. CSBR, Center for Sustainable Building Research in the School of Architecture and Urban Planning, Nanjing University, focuses on teaching and applications of the fundamentals of sustainable building technology as well as research in technology for the next generation of buildings. Areas of research include: Energy Efficient Building Design, Hygrothermal Performance of Buildings, Indoor Air Quality, Renewable Energy, Energy Efficient Lighting in Buildings and Building Simulation etc. Subjects include fundamentals of technology, applications to buildings, design studios, laboratories, and independent research projects. Research facilities include the Energy Efficient Buildings and Systems Program and the Climate Chamber etc.

Reducing the energy/carbon footprint of the nation's buildings sector is essential for tackling climate change and will be an enormous challenge. Buildings account for the consumption of 30% of total primary energy in China. The importance of buildings is amplified because renewable energy applications such as photovoltaic energy generation, day lighting, solar water heating, and geothermal (ground-source) space conditioning and water heating are most economical when using buildings as their deployment platforms. CSBR's work in pursuit of energy and environmental sustainability of the built environment is broadly based, addressing new and existing residential and commercial buildings.



## • **MSc ARCHITECTURE AND URBANISM**

### 1. Objective

This programme targets at high-level professional education in research-based architectural design. It will foster original understanding of Chinese architecture and urban development, familiarize the students with the architectural practice in China, and combine solid professional training with the nurturing of creative thought.

The students will accomplish the following objectives:

- a. Grasp the cutting-edge theories, methodologies and technologies of architecture towards practice; establish the framework of knowledge for architectural design; and acquire the capacity of using the professional knowledge.
- b. Possess the creative capacity to conduct independent architectural design; capable to use the learned theory to creatively solve practical issues; capable to conduct independent study on architecture and urbanism.
- c. Grasp written and spoken Chinese language; understand Chinese culture; and capable to read Chinese architectural references.

### 2. Eligibility


The applicant should hold a Bachelor degree in architecture or a related discipline. The applicant need to participate in the admission examination. Shortlisted applicants need to attend an extra interview before being offered a place.

### 3. International Teaching

This International Master programme focuses on collaborative, multidisciplinary theoretical and practical studies on the contemporary architecture and urbanism of China, in order to formulate innovative understandings and develop creative methodologies. This programme will combine design experiments with emergent urban research and use teaching to drive academic research and international collaboration.

This programme is based at the University of Cambridge – Nanjing

University Research Centre on Architecture and Urbanism. There are regular teaching and student exchanges with world-class architectural departments at the Uni-

The background image shows a calm body of water in the foreground, reflecting the sky and the buildings in the distance. The sky is a clear, bright blue. In the background, a city skyline is visible, featuring several tall, modern apartment buildings or office towers. The buildings are mostly white and grey, with some windows reflecting the light. A line of green trees separates the water from the buildings. In the top left corner, the dark green, slender branches of a willow tree hang down, partially obscuring the sky. The overall scene is peaceful and urban.

iversity of Cambridge, TU Delft, ETH Zurich, etc. Besides, this programme will invite renowned international scholars and architects as guest tutors and visiting fellows to conduct intense design work-shops. There will be four international workshops per year, working on distinctive explorations on a common annual research theme. Together with compulsory professional courses (e.g. conceptual design), they will compose a multi-dimensional investigation on design research.

This programme is Three-year full-time. The students will begin a one-year thesis project after they have earned 32 credits in the first year. They could opt between a Design-based thesis project or a research-based written thesis. During the third year, the student will be supervised by a permanent staff (the supervisor), who will over-see the student's progress and meet her/him regularly.

The student can choose one of the following research directions for the thesis:

- Design methodology;
- Digital urbanism;
- Sustainable urbanism;
- Urban morphology;
- Housing urbanism;
- Modernization of Chinese urban architecture;

## 4. Modules

There are four types of modules (taught in English):

Type A	Non-professional courses provided by the Nanjing University	
Type B	Fundamental courses for architectural degree (select	
	B01 Study on Architectural Theory	2
	B02 Study on Urban Morphology	2
	B03 Theory and Practice of Urban Planning	2
	B04 Urban History	2
	B05 Research Method Training	2
	B06 Technology of CAAD	2
Type C	Compulsory professional course	
	C01 Design Studio I: Basic Design	2
	C02 Design Studio II: Architecture and Tectonics	2
	C03 Design Studio III: Conceptual Design	2
	C04 Architectural Practice	2
Type D	Elective professional courses	
	D01 Preliminaries in Modern Architectural Design	1
	D02 Methodology of Modern Architectural Design	1
	D03 Materials and Construction	1
	D04 Topics of Architectural History	1
	D05 Studies in Chinese Wooden Tectonic Culture	1
	D06 Energy Conservation & Sustainable Architecture	1
	D07 Advanced Building System Integration	1
	D08 Method of Architectural history	1
	D09 Concepts and Application of GIS	1
	D10 Development of Landscape Planning	1
	D11 Theory and Methodology of Landscape Urbanism	1
	D12 Theoretical Frontiers of Architecture	1
	D20 Digital Architecture Design	2
	D21 International Design workshop I	1
	D22 International Design workshop II	1
	D23 International Design workshop III	1
	D24 International Design workshop IV	1
	Total credits required: $\cong$ 32	



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