



THE HONG KONG  
UNIVERSITY OF SCIENCE  
AND TECHNOLOGY



SCHOOL OF  
ENGINEERING

MASTER OF SCIENCE PROGRAM IN

# Digital and Sustainable Cities (DISC)





# #19 Civil and Structural Engineering

QS World University Rankings 2025 by Subject

## MASTER OF SCIENCE PROGRAM IN

# Digital and Sustainable Cities (DISC)

The Master of Science program in Digital and Sustainable Cities (DISC) is designed to equip students with cutting-edge knowledge and applications of emerging technologies in civil engineering such as **3D printing, digital twins, GIS, satellite remote sensing, cloud computing, construction robotics and modular integrated construction (MiC)** as well as their future trends, in response to the growing demand in the industry for professionals skilled in digital technology, data science and sustainable urban infrastructure management.

Our program integrates digital technologies and sustainable urban design applications, which are **essential for data-driven analysis for large-scale civil engineering and construction applications**, preparing engineers to tackle any complex challenges they may face as they join local or worldwide efforts to innovate in smart city development, infrastructure, and construction industries.

Full-time

Part-time

Normative Program Duration:

1-2 years

2-2.5 years

Program Fee (2026/27 Intake):

HK\$270,000\*

HK\$230,000

\* For students enrolled in the optional Industrial Placement, additional tuition fee of HK\$150,000 will be charged. Eligible students can receive an allowance to support their participation in the industrial placement.

# Curriculum

Students are required to complete a total of 30 credits of coursework, including

Required Courses\*

**24 credits**



MSc Project  
Compulsory

**6 credits**



## COURSE LIST

### i. Digital Technology and Data Science Courses

(at least 2 courses)



- Autonomous Construction and Robotics
- Digital Twins for Engineering Systems and Smart Cities
- Geospatial Data Analytics for Urban Infrastructure Planning
- High-Performance Computing for Geotechnical Engineering
- Remote Sensing and Smart Sensor Networks



### ii. Sustainable Design and Management of Infrastructures Courses

(at least 2 courses)



- Circular Economy in Infrastructure Development
- Computer Methods for Structural Engineering
- Computer Vision for Structural Health Monitoring
- Game-Theoretic Models for Smart Urban Infrastructure Systems
- Low Altitude Economy in Sustainable Cities
- Smart Transportation Planning
- Sustainable Construction Materials
- Sustainable Design, Planning, and Operation for Net-Zero City

\*Subject to approval, students may take a maximum of 9 credits from the designated non-DISC postgraduate courses.



Industrial Placement

**6 credits** Optional



Full-time students are strongly encouraged to opt for the 1-year full-time Industrial Placement regionally or internationally, which they will have the opportunity to develop their technical and soft skills while building a professional network at multinational corporations or professional firms.



# #24

Global Employability

THE Global Employability University Ranking 2025

#1 in Hong Kong

#3 in Greater China





# Admission and Requirements

- Applicants must possess a bachelor's degree in Civil Engineering or a related engineering field with second-class honors or higher, or an equivalent qualification from a recognized university or tertiary institution.
- English proof (TOEFL or IELTS) is required for applicants from universities where English is not the medium of Instruction

For admission details and procedures, please refer to  
**HKUST Fok Ying Tung Graduate School**



## Career Prospect

The construction, infrastructure, and urban development sectors are rapidly adopting advanced digital technologies to drive smart city initiatives, sustainable growth, low altitude economy, operation and management of facilities.

The program's focus on digital innovation, data science, and sustainability directly addresses these gaps, preparing graduates for roles such as smart civil engineers, sustainability managers, urban planners, GIS specialists, R&D engineers, and project managers in automated construction. This ensures that graduates are not only highly sought-after but also positioned to lead and innovate in sectors critical to the future of urban infrastructure and smart city development.



# #33 Engineering

THE World University Rankings 2025 by Subject

#1 in Hong Kong #5 in Greater China #8 in Asia



### Professional Program Office

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