THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (GUANGZHOU)

EXPANDING FRONTIERS
CONVERGING MINDS

SHAPING THE FUTURE OF EDUCATION

Creating long-term value for the Greater Bay Area and Beyond

Innovation, adaptation, inclusivity, and originality – this set of beliefs has led the Hong Kong University of Science and Technology (HKUST) to make great strides progressively in education, research, and knowledge transfer since its establishment in 1991. In just three decades, HKUST has risen through the ranks in the global educational arena and is recognized as one of the top young universities in the world.

Deeply rooted in Hong Kong, HKUST has a role to play in advancing the sustainable development of the city in the fast-changing digital era. While Hong Kong enjoys international status as one of the world's most open and dynamic economies and has built close ties with mainland China, it needs to forge stronger partnerships between academic and industry to help the city keep pace with the latest innovation and technology trends and facilitate innovators to put new ideas into action.

Seeing the unprecedented demand for high-end talent in support of the development of Hong Kong and the world, HKUST is looking to push the boundary and forge bridges across disciplines to develop leaders who aspire to make a difference. With the world being beset with many emerging complex global problems, relevant solutions could no longer be derived within a single conventional discipline, representing a fundamental challenge faced by higher education institutions in the world today. Like its fellow institutions around the globe, HKUST strives to think forward and reinvent education that defies the boundaries of traditional fields and opens up new frontiers of knowledge and research to address unfolding needs of the wider society.

The Hong Kong University of Science and Technology (Guangzhou) (HKUST(GZ)) indeed is the realization of this ambition to transform education for the future, with its cross-disciplinary academic structure designed to complement the well-established disciplinary foundation at the Clear Water Bay campus.

This vision of transforming the future fits well to the master plan of the development of the Greater Bay Area (GBA) which will serve as a strategic hub to catalyze the combined talents of the special administrative regions of Hong Kong and Macau, and nine cities in Guangdong Province. The initiative will also strengthen knowledge transfer to bridge Hong Kong's gap in high-tech manufacturing through the strong mainland supply chain network.

To conceive this new vision of HKUST, the University signed a tripartite agreement with the Guangzhou Municipal Government and Guangzhou University in 2018. Under the agreement, the University will jointly establish HKUST(GZ) in the Nansha district of Guangzhou with full support of the local authority and partner. With the preparatory approval already obtained, HKUST is vigorously progressing to the next phase of this important milestone.

Mr. Andrew LIAO Cheung-Sing, Chairman of the HKUST Council (middle), Prof. Wei SHYY, President of HKUST (second left) and other guests officiated at HKUST(GZ)'s groundbreaking ceremony in September 2019.

FOSTERING CROSS-DISCIPLINARY PURSUITS

Developing a Distinctive Education and Research Model

HKUST(GZ) seeks to take the University's education and research excellence to the next level through a dynamic and fully complementary synergy with our Clear Water Bay campus, with its degree programs focusing on cross-disciplinary thematic fields that complement those in Clear Water Bay without any duplication.

Endowed with a rich scholarly heritage and inspired by the culture of innovation, HKUST has been achieving academic and research excellence with its longstanding and conventional school and department structures, which have laid the foundations for solid and well-established disciplines organized around well-defined subject areas in four Schools – Science, Engineering, Business and Management, and Humanities and Social Science. Over the years, the Clear Water Bay campus has successfully generated numerous research breakthroughs and ground-breaking innovations under this discipline-focused academic structure.

With the world changing rapidly, there is an urgent need for a more holistic and integrative education and research approach to developing students' core competencies beyond individual disciplines to overcome increasingly complex problems facing humankind today. Interdisciplinary Programs Office was therefore established as an initial effort to encourage cross-disciplinary collaboration in education and research. Over the past years, the Office has played an important role in addressing policy challenges such as sustainability and public policy in Hong Kong, the GBA, East Asia and the world.
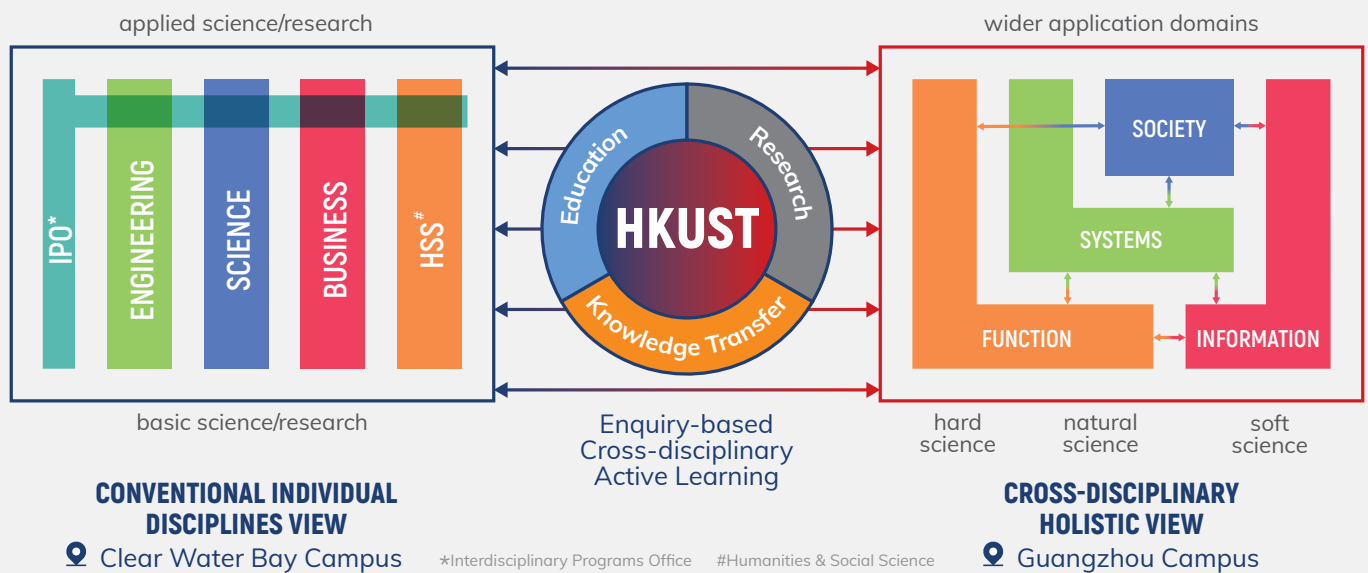
While capitalizing on the strong, discipline-based foundation at the Clear Water Bay campus, HKUST(GZ) will chart new territories in pedagogical approach through the implementation of a unique and non-conventional Hub structure incorporating the initially planned 16 cutting-edge Research Thrust Areas. This innovative model allows faculty and students to bridge diverse knowledge from multiple disciplines and explore new frontiers of cross-disciplinary research for discovering novel solutions to global problems.

Four Academic Hubs – Function, Information, Systems, and Society – are established and designed to articulate and offer the necessary mechanism for delivering intended cross-disciplinary outcomes. While Function and Information are closely linked and provide the fundamentals to build Systems that supports Society, the Hubs are all interconnected and will complement the four academic pillars - Schools of Science, Engineering, Business and Management, and Humanities and Social Science established by the Clear Water Bay campus to achieve maximum synergy in education and research.

This pioneering academic structure breaks down the disciplinary silos and fosters a new architecture of education and research model that is responsive and adaptive to ever-changing global trends. Many

HKUST Academic Structure

applied science/research

IPO*

ENGINEERING

SCIENCE

BUSINESS

HSS#

basic science/research

CONVENTIONAL INDIVIDUAL DISCIPLINES VIEW

📍 Clear Water Bay Campus

Education · Research · Knowledge Transfer · **HKUST**

Enquiry-based Cross-disciplinary Active Learning

*Interdisciplinary Programs Office   #Humanities & Social Science

wider application domains

SOCIETY

SYSTEMS

FUNCTION

INFORMATION

hard science · natural science · soft science

CROSS-DISCIPLINARY HOLISTIC VIEW

📍 Guangzhou Campus

of the major trends and cutting-edge technologies, such as Big Data, Design Thinking, Microelectronics, Sustainable Energy, Bioscience, and Fintech are the perfect examples of advancements made possible by linking different fields of studies. In order to cultivate cross-disciplinary pursuits, HKUST(GZ) will focus on postgraduate degrees in the initial phase to develop research talents who already acquired the fundamental knowledge of a specific discipline. Undergraduates will be admitted later as and when conditions allow.

Equally exciting, HKUST(GZ)'s faculty and students will combine intrinsically innovative programs and projects with knowledge transfer, industry partnerships, and next-generation entrepreneurship, allowing them to be well positioned to respond more rapidly to real-world evolving challenges and emerging trends, paving the way to spur greater social, economic, and technological impact. This new framework is fueled and supported by the massive industrial and commercial infrastructure of the GBA which will allow great ideas to take flight. HKUST(GZ)'s proximity to the University's established

Mainland research platforms in Nansha and Shenzhen as well as the R&D Center in Foshan, will strengthen knowledge transfer of research findings and applications, and facilitate commercialization to its fullest.

Central to the academic framework is the enquiry-based cross-disciplinary active learning model which is designed to enhance students' creative thinking, empower them to build their own ideas, and cultivate their ability to engage with society so as to foresee, identify, and solve real-world problems. To facilitate a full spectrum of exposure to cross-disciplinary experiences, they will be required to participate in cross-disciplinary research methodology and design-thinking core courses in the form of project-based learning. Through interactive exchanges and in-depth discussions over the whole project development, students will learn how to think creatively, integrate ideas boldly, solve problems innovatively, and work collaboratively to address global challenges. In addition, students are required to take a core course from their Hub and at least another core course from one of the other three Hubs to further broaden their disciplinary exposure.

With none of the University's current degree programs duplicated, this innovative approach to education will set a good example for the global higher education sector over the strategic integration of different fields of expertise to create a positive impact on the world.
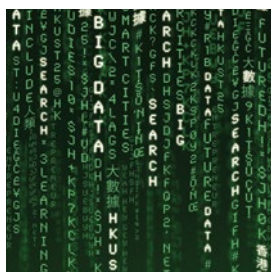
Pioneering Hubs Drive Pioneering Innovation
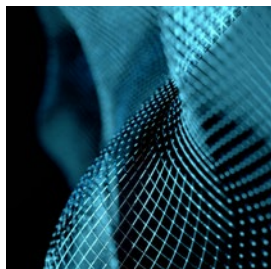
■ Function Hub

The Function Hub aims to drive cutting edge research related to technological advances in new materials, renewable energy, and earth system diagnostics t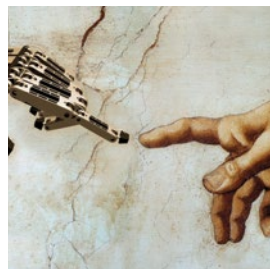hat are intertwined with different parts of our daily lives. Its four thrust areas comprise Advanced Materials; Earth, Ocean and Atmospheric Sciences; Microelectronics; and Sustainable Energy and Environment, each with a particular research focus, for example, innovative and transferrable materials; integrated circuits, system architecture, and design automation; ocean-atmosphere-land interaction in the earth system; and renewable and sustainable energy technologies.

■ Systems Hub

The Systems Hub hosts a cluster of thrust areas in Bioscience and Biomedical Engineering, Intelligent Transportation, Robotics and Autonomous Systems, and Smart Manufacturing. It aims to explore industrial or societal applications through the planning and implementation of industrial automation, the design of intelligent traffic management and transport networks, the advancement of personal assistive robotics and human-robot interaction, and advances in regenerative medicine and healthy aging research.

■ Information Hub

In today's era of digital transformation, the Information Hub focuses on addressing global challenges arising from human interactions with infor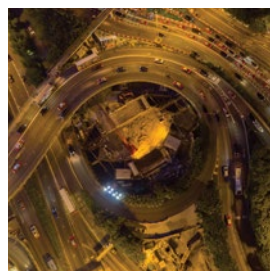mation and technology, through AI-powered technology, effective decision made with advanced data technologies, IoT-enabled future smart cities and digital society, as well as the interplay of art and technology with a social impact. The Hub is made up of four thrust areas including Artificial Intelligence, Computational Media and Arts, Data Science and Analytics, and Internet of Things.

■ Society Hub

The Society Hub focuses on thrust areas encompassing Financial Technology; Innovation, Policy and Entrepreneurship; MBA+; and Urban Governance and Design. The Hub will equip students with strong analytical skills and an open mindset highly valued by the business community, think tanks, and policy/research institutions, and aims to nurture socially-conscious talents to identify economic and social issues of urban areas; solve problems through innovation in technology, institution, policy, entrepreneurship, and business model; revolutionize the financial industry; and master specific domain knowledge as entrepreneurs, innovators, and business leaders.

HARMONIZING ORGANIZATIONAL CULTURE

Unified HKUST, Complementary Campuses

To implement true and effective integration across the two campuses, a "Unified HKUST, Complementary Campuses" framework will be adopted. All central research facilities, research institutes and academic programs on each campus will be made available to members of the other campus. The enterprising structure will also streamline and coordinate administrative and academic activities and processes by cross-leveraging shared services through system-wide offices spanning both HKUST and HKUST(GZ).

In line with HKUST's best-in-class operations, this unified and integrated system will ensure comparable quality levels at HKUST(GZ) as well as management practices that adhere to international standards in all the basic and essential infrastructure support such as information technology and health and safety.

Institutional charters, rules and policies will also be established for the new campus. HKUST remains responsible for developing and maintaining academic programs at the same standards as required by the HKUST Senate.

DESIGNING A CAMPUS OF THE FUTURE
Marrying Nature with Technology

In order to foster true and meaningful collaboration between the two campuses, the 1.1-sq-km Guangzhou campus is conveniently located in Nansha, south of Guangzhou and adjacent to the Qingsheng station on the high-speed Guangzhou-Shenzhen-Hong Kong Express Rail Link. It takes just 30 minutes to travel there from the Hong Kong West Kowloon railway station.

Designed by internationally renowned architects Kohn Pedersen Fox Associates (KPF) as an inspirational "smart green campus", HKUST(GZ) will align with both the style of the Clear Water Bay campus and the natural features of its own environment.

Combining institutional form, function, and aspiration with sustainability and organic beauty, it memorably heralds the university of the future, setting a new standard for higher education.

Highlights include:

An architectural design that embodies the unified system between the two campuses, including the same "Redbird" sundial featured at Clear Water Bay.

A network of eight precincts and neighborhoods, each with a distinctive yet complementary character.
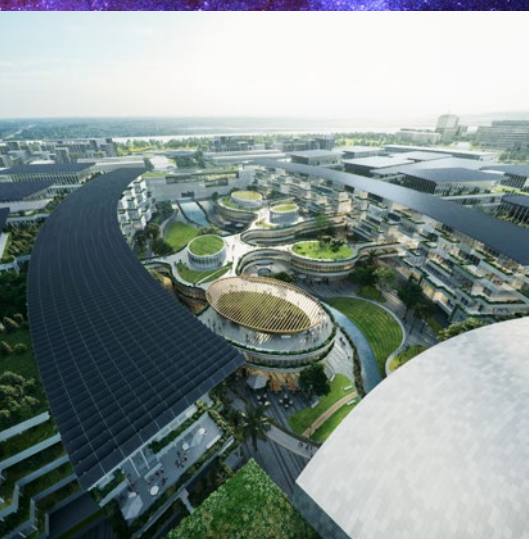
Clusters of learning facilities and research labs developed around the four academic hubs and specifically designed for cross-disciplinary collaboration and to facilitate the integration of teaching, learning, research, and knowledge transfer.

Guangzhou

Foshan

C Guangzhou South

Qingsheng

HKUST(GZ)

Humen

Dongguan

Huizhou

Guangmingcheng

Zhongshan

B

A

Shenzhen North

Futian

Shenzhen

Hong Kong

HKUST

West Kowloon

Zhuhai

Macau

Areas connected by accessible concourses to stimulate academic and social interaction.

Integration of accommodation and facilities for daily living and sports activities.

Sustainable planning with nature preservation (50% of the site) to create a fresh and natural experience for students, faculty and visitors, and waterways that echo the coastal landscape of the Clear Water Bay campus.

Construction is due to commence in mid-2020 and the campus scheduled to open in fall 2022.

GRAVITY OF THE BEST MINDS
Locally, Nationally, Globally

Students of HKUST(GZ) will be supported to pursue courses on both campuses while faculty will be encouraged to hold joint appointments across HKUST and HKUST(GZ), ensuring that the academic structures of both campuses are cross-linked but not overlapped.

Through our pace-setting Guangzhou Pilot Scheme while the Guangzhou campus is under development, the first cohort of 106 research postgraduate students commenced their studies at the Clear Water Bay campus in 2019. The second cohort of 150 students will be admitted in fall 2020. Each student is co-supervised by at least two supervisors from different disciplines to ensure cross-disciplinary thinking is adopted in research topics.

First cohort of research postgraduate students

36 MPHIL
STUDENTS

70 PHD
STUDENTS

Be part of our next chapter!

If you want to become part of the distinctive postgraduate experience at HKUST(GZ) in a go-getting part of the world, visit the Office of Postgraduate Studies' website at **https://pg.ust.hk/gz** and stay tuned for details of the next application window.

In addition, academics keen to be part of a leading university team with a difference and experienced in cross-disciplinary curriculum and program design, are invited to apply anytime during the year. Visit **https://gz.ust.hk/careers** for current openings.

If you would like to learn more about HKUST(GZ), you are welcome to visit **https://gz.ust.hk**.

Seize this exceptional opportunity now and join us venturing into a bold and first of its kind learning model that transforms wisdom and expertise into limitless possibilities!

HKUST(GZ)   Office of Postgraduate Studies   Careers