THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

Department of Computing
電子計算學系

MASTER OF SCIENCE IN

METAVERSE TECHNOLOGY

元宇宙科技理學碩士課程

EMBARK ON JOURNEY TO LIMITLESS

IGNITE YOUR SPARK OF GENIUS

About US

About PolyU

With over 89 years of proud tradition and ranking among the world's top 100 institutions, PolyU strives in interdisciplinary research and impactful innovations to address real-world challenges.

About COMP

The Department of Computing (COMP) is one of the pioneers offering computing education in the territory. Since 1974, COMP has been devoted to nurturing professional talents to support the advancement of society.

International Recognition

Today, COMP has gained international recognition in world-class research and high-quality education and ranked among the top 100 in a number of world rankings. In the latest world university rankings by the subject "Computer Science" :

23rd U.S. News & World Report 2026

32nd Global Ranking of Academic Subject 2025

70th The Times Higher Education World University Rankings 2026

Advanced learning facilities & laboratories

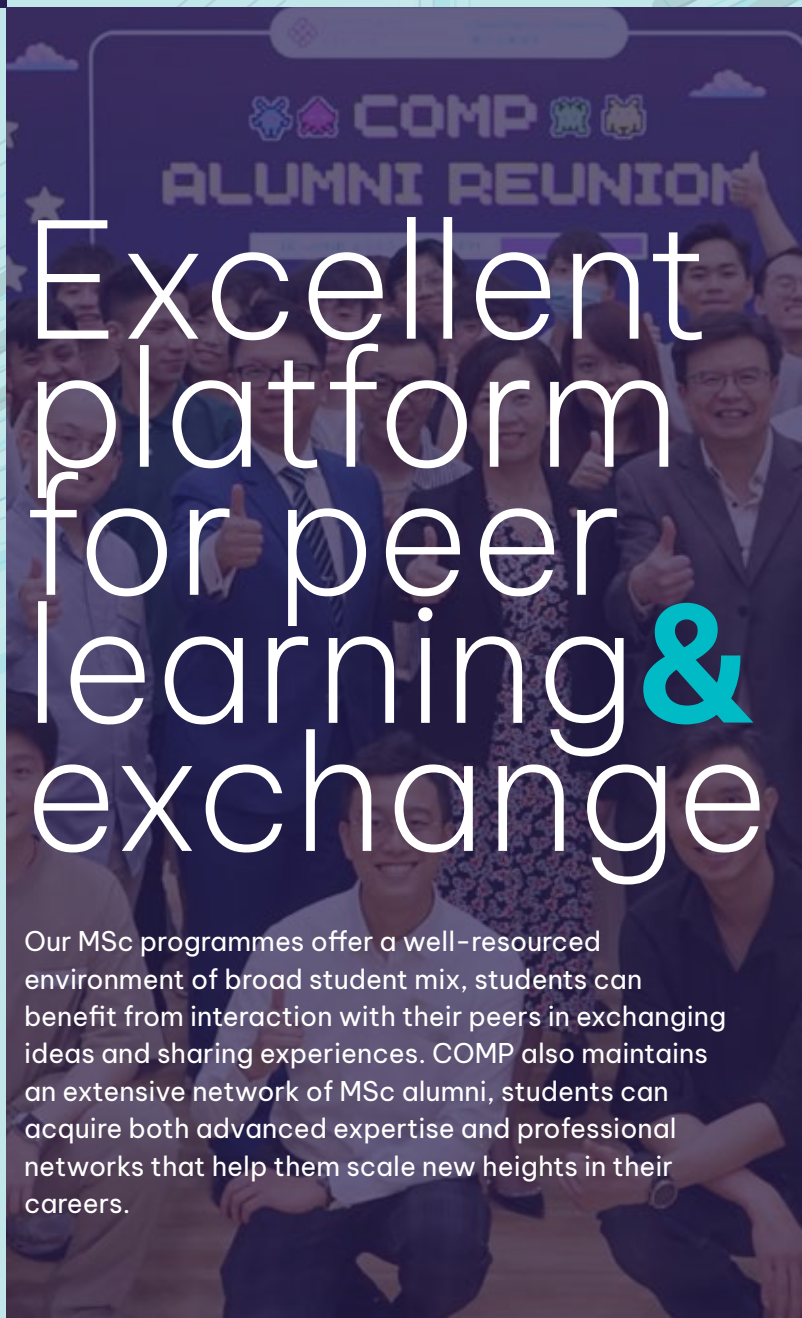
COMP owns world-class laboratories and the first University Research Facility in Big Data Analytics in Hong Kong, providing solid hardware support for cross-disciplinary research and teaching activities.

- Collaborative Generative AI (Co-GenAI) Research Centre
- FinTech and Cyber Security Lab (FCSL)
- Internet and Mobile Computing Lab (IMCL)
- Research Centre on Data Science and Artificial Intelligence (RC-DSAI)
- The Research Centre for Blockchain Technology (RCBT)
- University Research Facility in Big Data Analytics (UBDA)

Students undertaking projects and dissertations will have the opportunity to access other resources such as the Game Lab and the Big Data and Cloud Computing Platform.

Game Lab

Research Centre on Data Science and Artificial Intelligence (RC-DSAI)



Excellent platform for peer learning & exchange

Our MSc programmes offer a well-resourced environment of broad student mix, students can benefit from interaction with their peers in exchanging ideas and sharing experiences. COMP also maintains an extensive network of MSc alumni, students can acquire both advanced expertise and professional networks that help them scale new heights in their careers.

MSc in **Metaverse Technology**

Programme Introduction

Web 3.0 raised the tremendous demands of immersive experience in the virtual world. This has ripened people's conception about the metaverses from a faraway future idea to a reality in prototyping. On the frontier of development, there are increasing calls for practitioners from a wide range of fields such as VR/AR, gaming, social media, artificial intelligence, decentralised infrastructures, and crypto properties. The trend motivates us to offer a new programme for metaverse designers, builders, and visioners in research and industry.

The Master of Science in Metaverse Technology (MScMT) programme aims to equip graduates with an in-depth understanding of the nature of metaverses and the fundamental technologies behind their development, to enhance their ability to integrate diverse technologies into metaverse applications, and to cultivate a multidisciplinary, coevolutionary perspective that inspires enthusiastic engagement in lifelong learning within this dynamic field.

Student Showcase

University Research Facility in Big Data Analytics (UBDA)

Features

GET A TASTE FOR EVERY ASPECT OF METAVERSE

A comprehensive exploration of the latest metaverse technologies, including VR/AR, game development, machine learning, decentralised infrastructures, crypto properties, computer vision and AIoT.

Teamwork and Collaboration

Work in teams as both a leader and a member and effectively collaborate with practitioners from various disciplines.

Favourable Environment for Future Development

In October 2022, The Government of Hong Kong Special Administrative Region announced a policy statement on the development of Virtual Assets in Hong Kong, providing a facilitating environment for promoting sustainable and responsible development of the VA sector. Graduates of this programme would be able to grasp this golden opportunity to develop careers in this sector.

Industrial Support

We have connected with the industry and found positive support in our programme, especially the Metaverse Project, which provides an opportunity for the industry and university to work together on a new business solution. We have received the supporting letters from Cyberport, MTR, HKT, The Sandbox, Hong Kong Extended Reality Association, Votanic, Xensory Lab, Lutech, etc.

Facility for 360° Video Creation

An Immersive Prototyping and Experience facility designed for 360° video creation, photorealistic 3D modelling, physical-metaverse prototyping, and interaction will be set up to facilitate immersive experiences with virtual worlds. The facility will be used for teaching & learning, research, and a showcase of metaverse applications and will be equipped with state-of-the-art VR headsets, IoT sensors, 3D/4D capture devices, different CAVE system, and high-performance servers.

Programme Structure

MSc in Metaverse Technology

Each subject consists of one class a week over a 13-week semester. Students are enrolled in 4-5 subjects per semester and a Metaverse Programme core (Metaverse Project II) in the summer semester.

Core	Credits
Metaverse Programme core	12
Metaverse Technology core	6
Metaverse Design & Ecology core	6
Electives and/or Additional Core subjects	6
Academic Integrity and Ethics subject	1
Total	**31**

MODE OF STUDY

This is a full-time programme.

AWARD REQUIREMENT

Students are required to complete 31 credits for the MSc in MT.

Subject Introduction

Metaverse Programme Core

- Extended Reality
- Metaverse Fundamentals
- Metaverse Project I
- Metaverse Project II

Metaverse Technology Core

- Blockchain & Smart Contract Security
- Human Computer Interaction
- Digital Twins & Virtual Human
- Game Engine & Programming

Metaverse Design & Ecology Core

- Procedural Content Generation and AI in Games
- Metaverse Applications: Design and Case Studies
- Metaverse Economics & Ecosystems
- Theory and Practice of Video Game Design

Academic Integrity and Ethics subject

- Academic Integrity and Ethics in Computer and Mathematical Sciences (1 credit)

Elective Subjects

- Software Engineering and Development
- Wireless Networking and Mobile Computing
- Cyber and Internet Security
- Multimedia Computing, Systems and Applications
- Natural Language Processing
- Big Data Computing
- AI Concepts
- Distributed Ledger Technology, Cryptocurrency and E-Payment
- Computer Vision and Image Processing
- Machine Learning and Data Analytics
- Applied Cryptography for Financial Applications
- Decentralised Apps Fundamentals and Development
- Computational Economics and Algorithms
- Modern Cryptography
- Artificial Intelligence of Things
- Large Language Models for Agents
- IoT – Tools and Applications
- Social Media Marketing
- UX Design Fundamentals
- Advanced Visualisation and Interaction
- Entrepreneurship for Culture and Creative Industry

This programme focuses on collaborative projects which aim to provide students with more work practices and exposure to industrial applications, enabling them to integrate various technologies into metaverse applications.

Students are allowed to choose from a common pool of electives within the Department of Computing, subject to vacancies available. Some subjects may be offered during the summer to provide students with greater flexibility in designing their own study programme.

All subjects bear three credits unless otherwise stated and they are subject to review and changes.

Admission Requirements

• A Bachelor's degree in Computing / Computer Science / Engineering, Engineering Sciences, Mathematics or related disciplines. Applicants with a Bachelor's degree in other disciplines and who have at least three years of significant IT-related work experience will also be considered. In general, relevant work experience is preferred, and employers' support or sponsorship is an advantage.

• If you are not a native speaker of English, and your Bachelor's degree or equivalent qualification is awarded by institutions where the medium of instruction is not English, you are expected to provide one of the following proficiency test results (taken in a single sitting within 2 years) to fulfil the minimum English language requirement for admission purpose:

a) A score of 80 or above in the Test of English as a Foreign Language (TOEFL) Internet-based test; OR

b) An Overall Band score of 6.0 or above in the International English Language Testing System (IELTS) Academic module.

More information can be found at www.polyu.edu.hk/study.

Application

To apply for the programme, applicants can submit their application via an online admission system at www.polyu.edu.hk/admission. This programme has a quota for admission therefore early application is strongly encouraged.

Programme Code	**61038**
Tuition Fee (30 credits)	**HK$ 13,800 per credit for local and non-local students**

Department of Computing

PolyU COMP

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Contents of this publication are subject to review and change.
Please refer to www.polyu.edu.hk/comp/ for the latest information. (July 2026)