香港城市大學
City University of Hong Kong

Department of Data Science
Department of Biomedical Sciences

College of Science
School of Energy and Environment

Master of Science in Artificial Intelligence for Sciences [MSAIFS]

理學碩士(人工智能與科學)

Full-time (1 Year) / Part-time (2 Years)

Programme Code: P79

MSAIFS — UNLOCK THE POWER OF YOUR EXPERTISE

Whether you are an enthusiast from any field seeking to revolutionize discovery with AI, or an AI specialist ready to apply your skills to grand scientific challenges, this is your launchpad.

Welcomes Applicants with all sorts of Backgrounds, including but not limited to Science, Engineering, Medicine, Business, Arts and many more!

Innovators fluent in AI and AI Practitioners driven by Scientific Discovery

WE ARE TRAINING A UNIQUE GENERATION

Join the mission to answer humanity's biggest questions!

CAREER PROSPECTS

The MSAIFS programme equips graduates with advanced AI skills tailored to scientific and interdisciplinary challenges. As artificial intelligence revolutionizes research and industry, our graduates will be prepared for high-demand careers at the intersection of AI and fields such as healthcare, environmental science and materials engineering. They will be positioned to drive innovation in areas like data-driven alloy design, autonomous laboratories, and large language models for scientific research, bridging the gap between cutting-edge AI techniques and real-world scientific applications.

Graduates of the programme can pursue diverse roles, including AI scientists, AI engineers for scientific domains, data specialists in biomedicine or sustainability, and innovation leads in technology and engineering sectors. The programme's interdisciplinary nature ensures that students develop expertise applicable to industries such as biotechnology, energy, digital medicine, and advanced materials. With AI playing an increasingly critical role in scientific discovery, our graduates will be highly sought after by tech firms, research institutions, healthcare organizations, and government agencies tackling complex challenges like climate modeling, precision medicine, and smart infrastructure.

The programme's strong collaborations with industry and academia—including partnerships with leading scientific departments at CityUHK—ensure that students gain exposure to real-world AI applications and emerging research trends. While the programme is new, its curriculum is designed in alignment with global workforce needs, where professionals skilled in both AI and domain-specific sciences command competitive salaries, often exceeding industry averages. Additionally, graduates will be well-prepared to pursue further research, with pathways to doctoral studies in AI, computational science, and related fields at top universities worldwide.

Admission and English Proficiency Requirements

Applicant must be a degree holder and preferably with academic background or experience in a discipline related to STEM (Science, Technology, Engineering, or Mathematics). Non-local candidates from an institution where the medium of instruction is not English should fulfil English proficiency requirement shown as follows.

Study Duration and Credit Requirement

- Total number of credit units required for graduation: **30 CUs**
- Duration of study:

	Normal Study Period	Maximum Study Period
Full-time	1 year	2.5 years
Part-time / Combined mode	2 years	5 years

English Proficiency Requirements

Applicants whose entrance qualification is obtained from an institution where the medium of instruction is NOT English should fulfill the following minimum English proficiency requirement:

- a score of 79 (Internet-based test) in the Test of English as a Foreign Language (TOEFL); or
- an overall band score of 6.5 in International English Language Testing System (IELTS); or
- a minimum score of 450 in band 6 in the Chinese Mainland's College English Test (CET6); or
- other equivalent qualifications.

CONTACT US

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Scan to learn more about the MSAIFS Programme!

PROGRAMME AIMS

The programme aims to offer rigorous artificial intelligence (AI) foundational training to solidify and enrich the knowledge of students in AI; enable interdisciplinary knowledge development centered on AI to support students in gaining a comprehensive understanding of both AI and domain principles across various fields; prepare graduates to undertake research and advanced innovative development work in industry with a focus on cultivating the skills needed to develop novel AI algorithms, enhance existing technologies, and apply these innovations to address challenges in scientific discovery, digital medicine, and sustainability disciplines.

CURRICULUM / PROGRAMME STRUCTURE

You can obtain an MSc degree by completing 30 credit units (CUs) with just coursework only, or by combining coursework with a dissertation project or a summer internship.

- 5 Core Courses (15 CUs) + 5 Track Elective Courses (15 CUs)

OR

- 5 Core Courses (15 CUs) + 3 Track Elective Courses (9 CUs) + Dissertation Course (6 CUs | Sem B and Summer Term)

OR

- 5 Core Courses (15 CUs) + 4 Track Elective Courses (12 CUs) + Internship Course (3 CUs | Summer Term)

Total 30 CUs

- The normal study period will be one year to complete 30 CUs in full-time mode. Students who plan to take the Internship course will have to complete 27 CUs in Semester A and Semester B first, before taking the Internship course (3 CUs) in the Summer Term.
- Students enrolled in the Internship course are not allowed to register for any other courses during Summer Term.
- While students are expected to look for internship opportunities by themselves, potential internship opportunities.* might be available to students.

*Subject to Department's and collaborating organisations' mutual consent / actual arrangements.

INTERNSHIP COURSE

- Gain valuable hands-on industry experiences.
- Available for full-time students only. (local and non-local)
- The Internship course is optional.

One Year (To be graduated after Summer Term)

Semester A → Semester B → Summer Term

Complete 27 CUs + Internship Course (3 CUs)

COURSE LIST

Core Courses (15 CUs)

- Statistical Machine Learning I
- Design of Experiments
- Artificial Intelligence for Scientific Knowledge Discovery
- Generative Artificial Intelligence
- Research Projects for Artificial Intelligence for Sciences

Track Elective Courses (15 CUs)

- Students are invited to indicate their 1st + 2nd choice of focused track during application.
- Upon enrolment, students must follow the track offered, and complete 15 CUs of electives from the track they belong. After track is allocated, selecting electives from other tracks is NOT permitted.

FOUR focused tracks, each comprising its own pool of electives:

- Track 1: AI for Scientific Discovery
- Track 2: AI for Digital Medicine
- Track 3: AI for Sustainability
- Track 4: Applied AI

KNOWLEDGE TRANSLATION OPPORTUNITIES AT THE HONG KONG INSTITUTE OF AI FOR SCIENCE (HKAI-SCI)

MSAIFS collaborates with HKAI-Sci in research and education. MSAIFS students will be considered by HKAI-Sci for their research and internship opportunities.

Introduction of HKAI-Sci

The Hong Kong Institute of AI for Science (HKAI-Sci) was established in October 2024 at City University of Hong Kong (CityUHK).

The Institute is a cutting-edge research institution dedicated to the convergence of artificial intelligence (AI) and new scientific disciplines.

Collaboration with HKAI-Sci

HKAI-Sci brings together world-leading AI experts and scientists to explore the frontiers of AI and science, fostering new technological advancements. **MSAIFS** students could be greatly benefited by the researches and projects initiated by HKAI-Sci. Latest AI trend and new AI applications could be learned with the contribution of the Institute.

A Signature Project: SciencePal by CityUHK

CityUHK and HKAI-Sci jointly released **SciencePal**, a research workstation that leverages AI to drive research productivity. SciencePal integrates deep search, scientific computing, programming, and multi-source data into an automated workflow, enabling users to co-create domain-specific agents and enhance research productivity. It serves as a professional assistant for researchers!

Scan the QR code to learn more!