THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

Department of Health Technology and Informatics 醫療科技及資訊學系

Master of Medical Imaging 2024/25 Information Seminar

12 Oct 2024

Dr Shara LEE | Associate Professor

Programme Leader

PhD, MSc (Cardiol), BSc Hons (1st), FHKCRRT, FHEA

Deputy Programme Leader (BSc (Hons) Radiography)

Deputy Programme Leader

Mr. Edward WONG | Associate Professor of Practice

Clinical Coordinator (MMI)

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

Department of Health Technology and Informatics 醫療科技及資訊學系

Master of Medical Imaging

醫療影像碩士學位

Professional Recognition

Graduates are eligible for registration in Part II of the Register of the Radiographers Board of Hong Kong. They are also recognised by many overseas registration bodies, including those in the UK, Singapore, New Zealand and Australia (after gaining 1 year of clinical experience). ^

Our graduates can find employment with the Hospital Authority, which recognises the degree as an entry qualification. Employment opportunities are also available in private hospitals, in clinics and laboratories, and in the commercial sector.

^ Subject to approval

Programme Aims

This programme equips students with the theoretical and practical skills to become entry-level diagnostic radiographers, emphasizing:

- Fundamental Knowledge: In-depth understanding of medical imaging theories and clinical skills.
- Practical Skills: Hands-on training for medical imaging procedures.
- Professional Development: Patient care, communication, and teamwork abilities.
- Critical Thinking & Innovation: Independent decision-making, problem-solving, and understanding of a radiographer's role in healthcare.
- Lifelong Learning & Research: Commitment to continuous learning and research for career advancement.

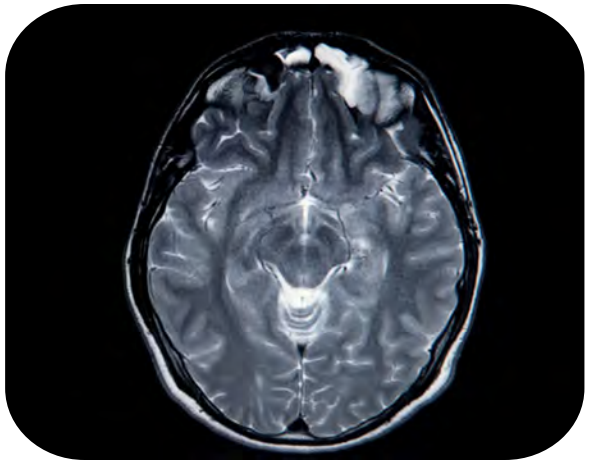
Characteristics

The clinical practicum, a pivotal part of the curriculum, is facilitated through Hospital Authority departments. Over the programme's 2-year span, students gain 1,344 hours of hands-on clinical experience. This extensive clinical training is mandatory for accreditation by the Hong Kong Radiographers Board. Per government ordinance, this accreditation is essential for Radiographer (Category: Diagnostic) roles in Hong Kong.

MEDICAL IMAGING

- Professional training to become radiographers (放射師)
- Radiographers produce high quality medical images that help doctors to diagnose and monitor disease



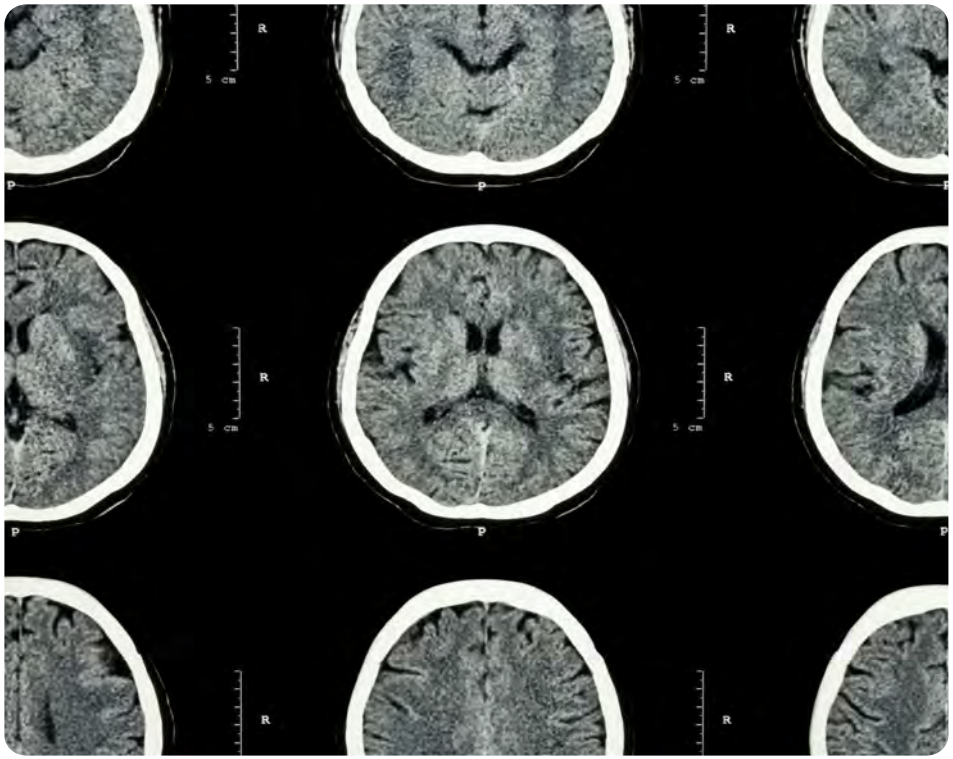


MEDICAL IMAGING MODALITIES

Plain X-Ray

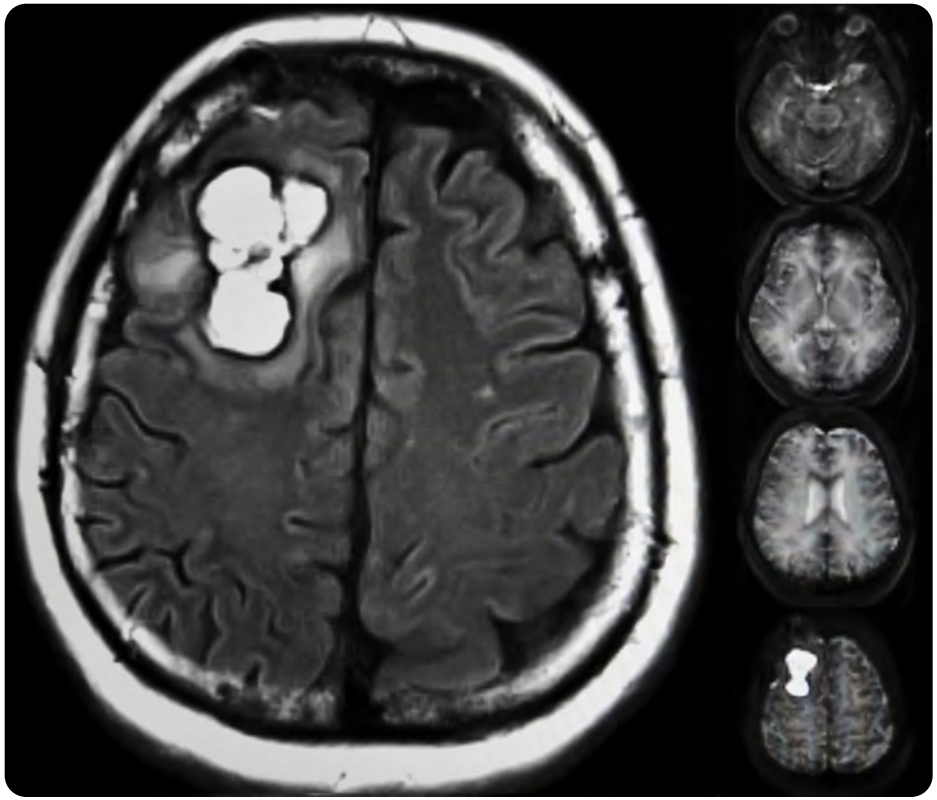
MEDICAL IMAGING MODALITIES

Computed Tomography (CT)



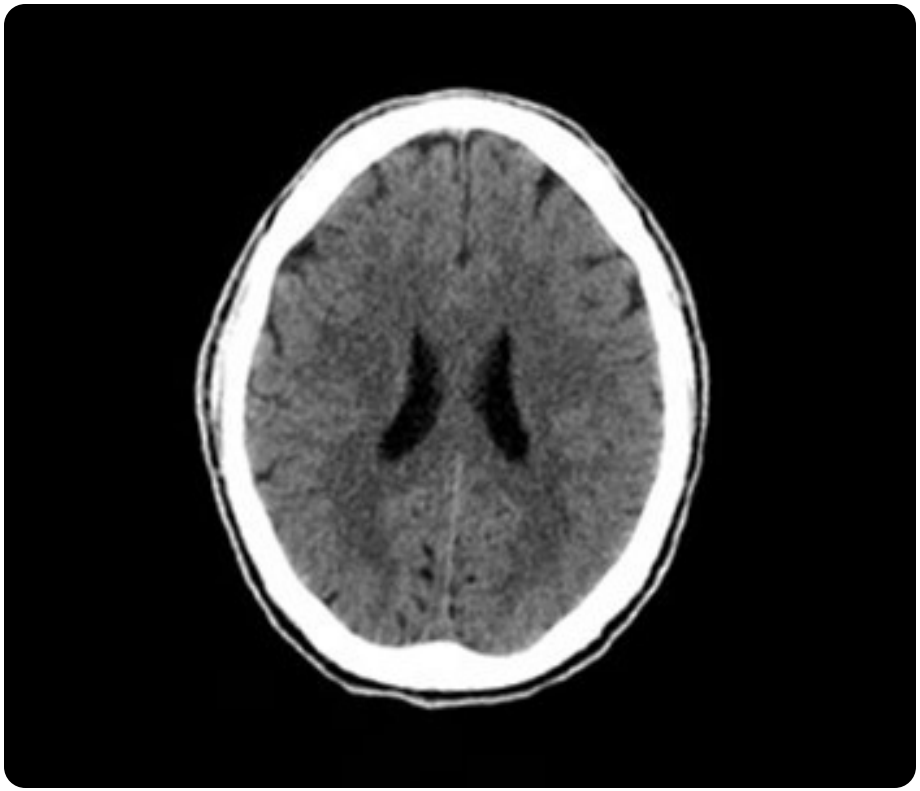
MEDICAL IMAGING MODALITIES

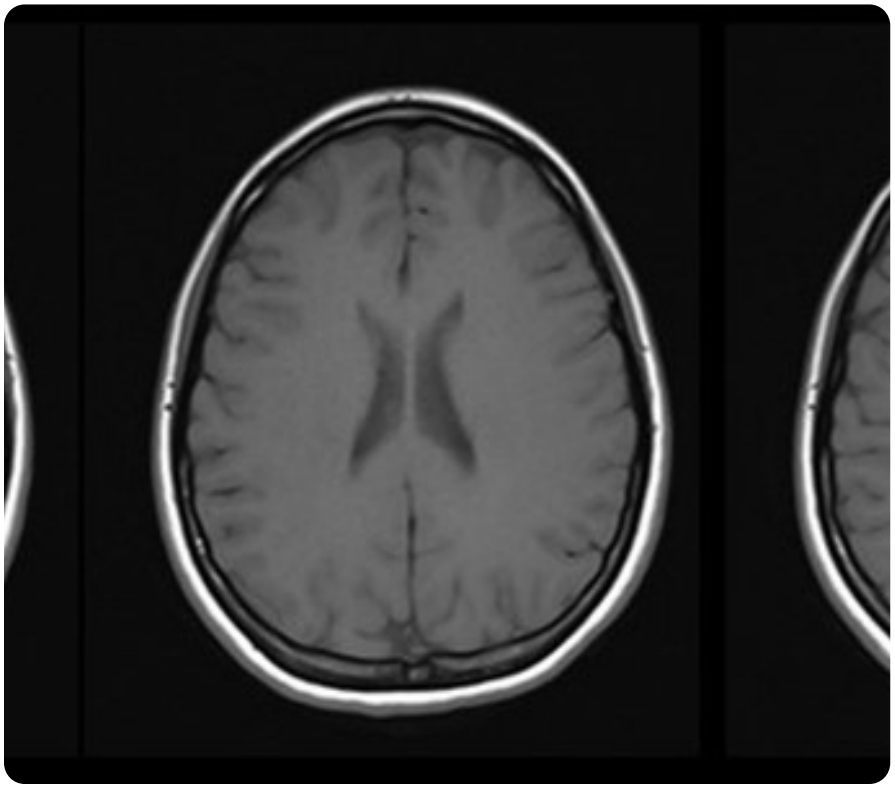
Magnetic Resonance Imaging (MRI)



MEDICAL IMAGING MODALITIES

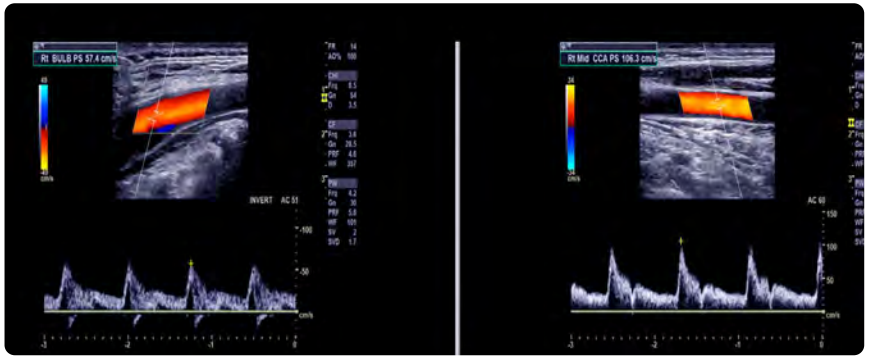
CT vs MRI Images





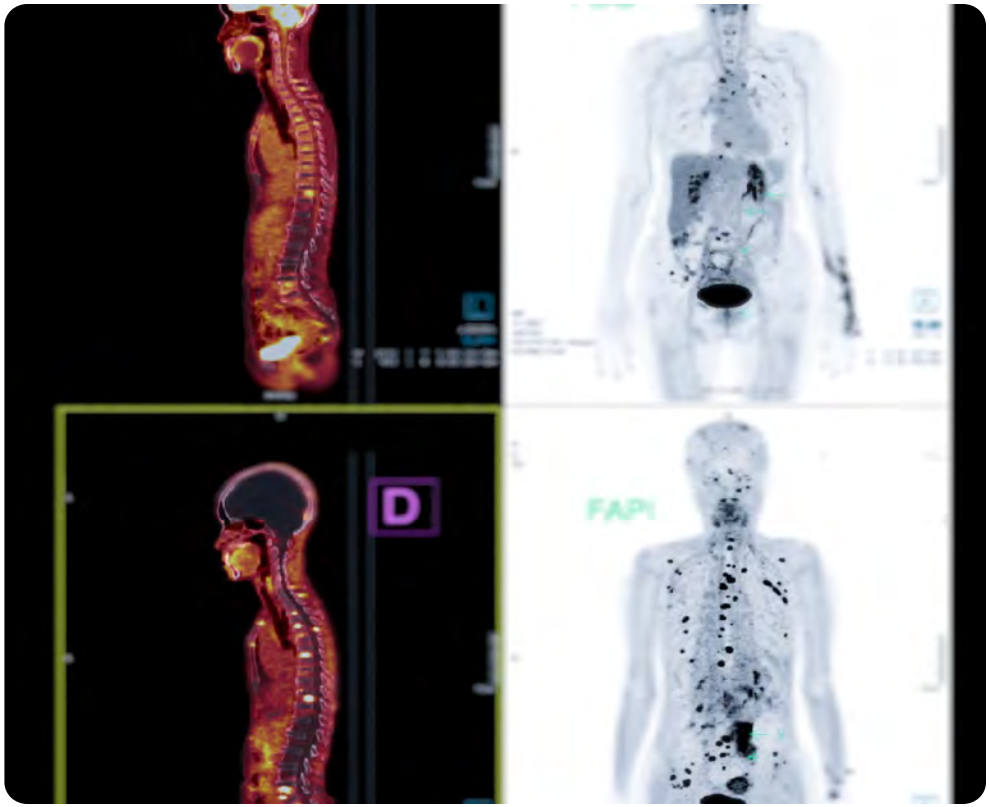
MEDICAL IMAGING MODALITIES

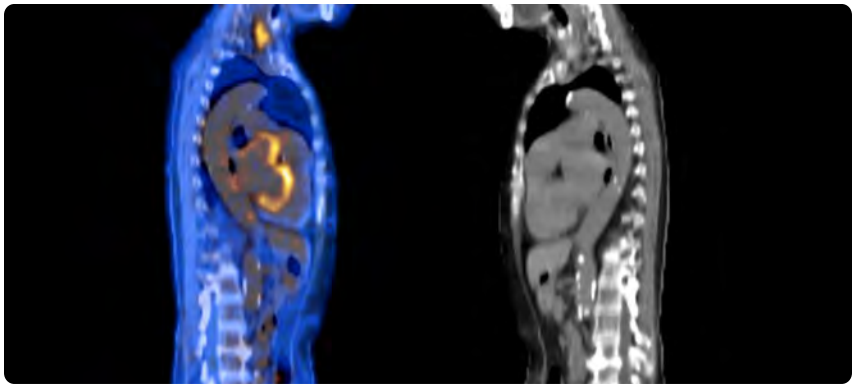
Diagnostic Ultrasonography (USG)



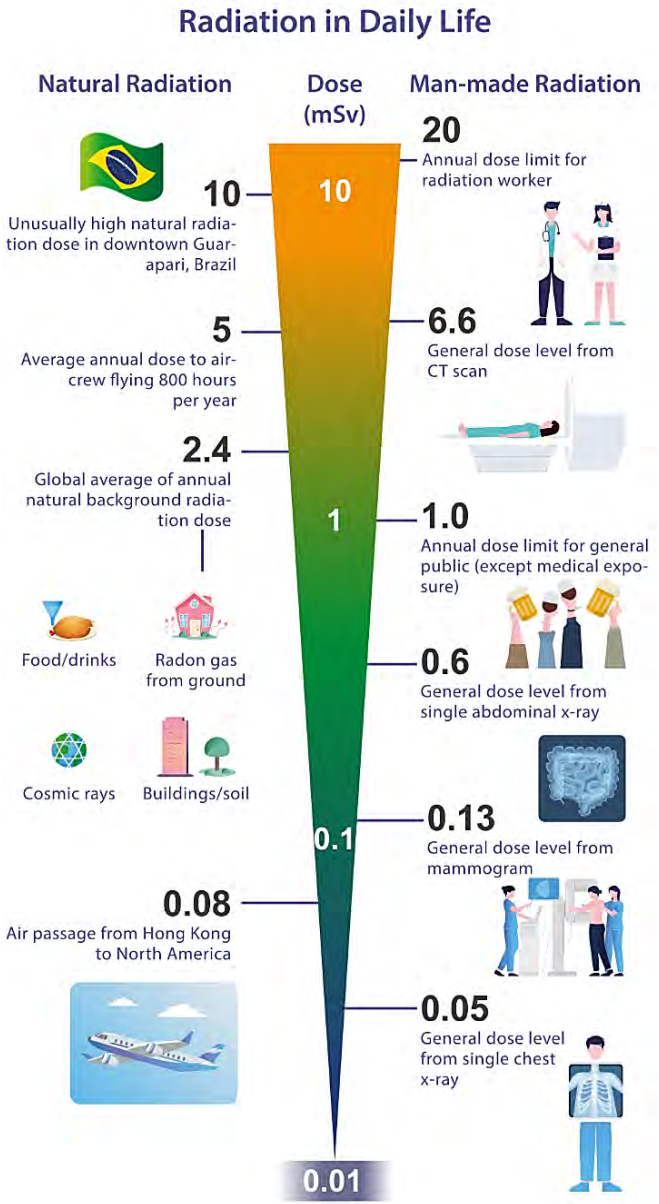
MEDICAL IMAGING MODALITIES

Nuclear Medicine (NM)



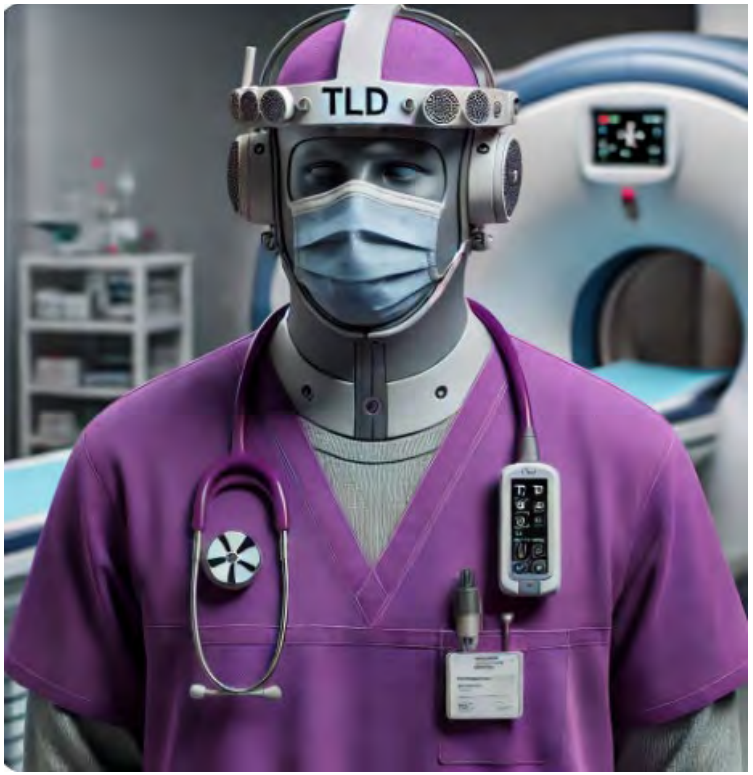


We are living with radiation



Ref: https://www.sb.gov.hk/eng/special/nuclear/Radation.html

Is it safe to work as a Radiographer?

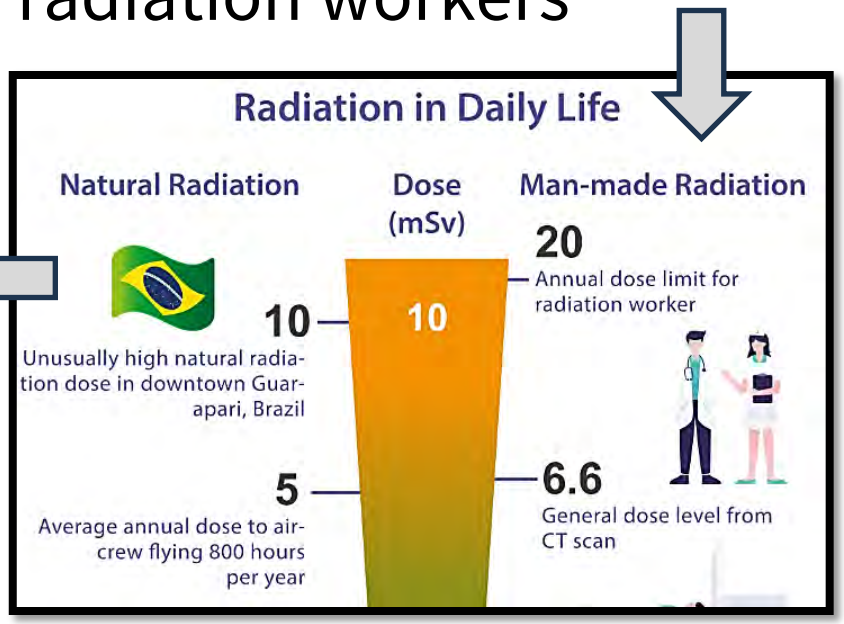


Is it safe to work as a Radiographer?

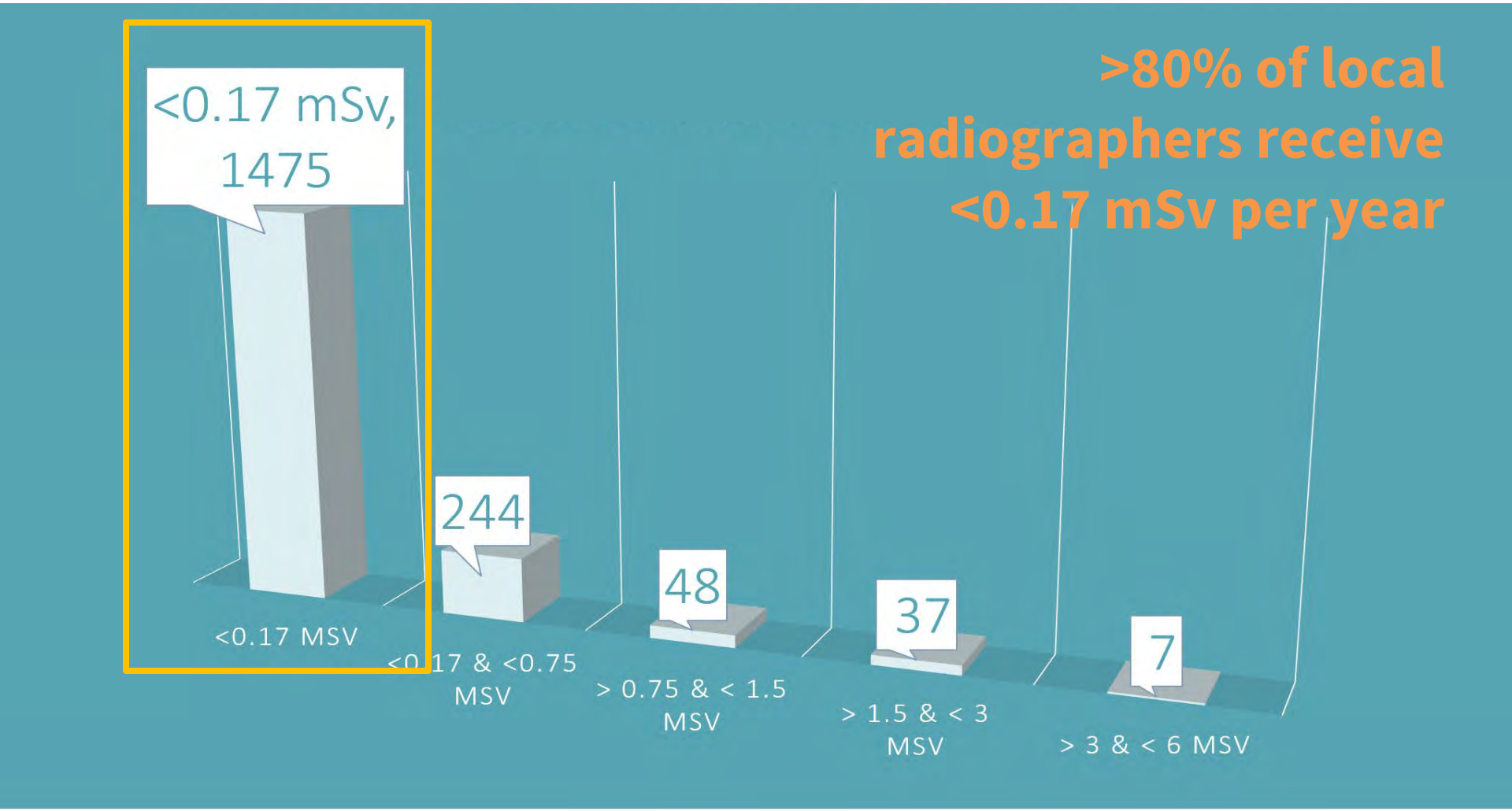
Legal Requirements

Maximum Permissible Dose Limit

20 mSv/year for radiation workers

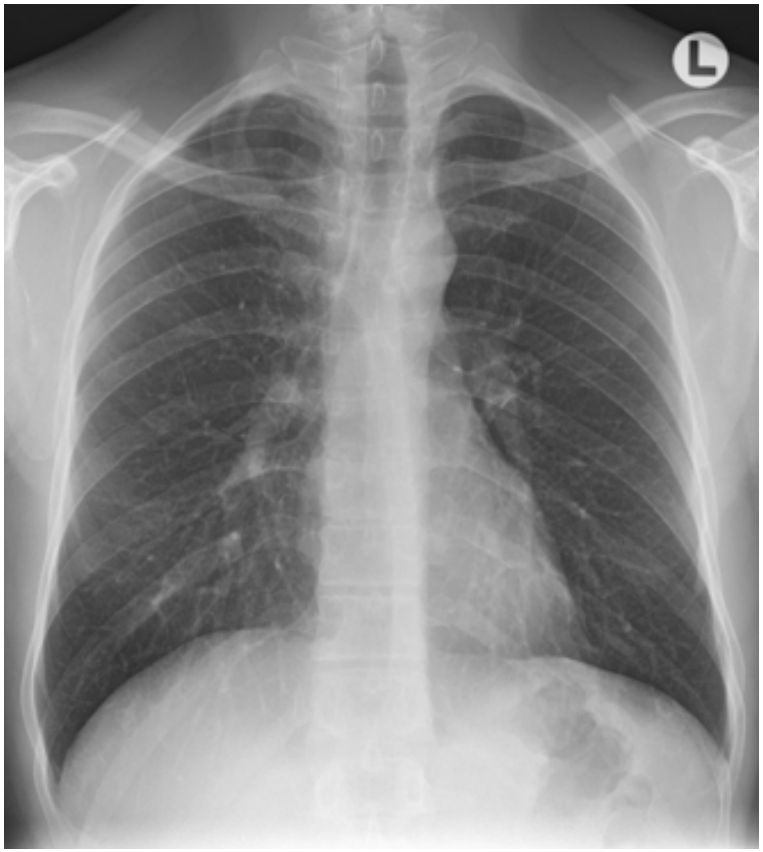


Distribution of annual whole-body dose of local radiographers (2020)



>80% of local radiographers receive <0.17 mSv per year

Factual Comparison



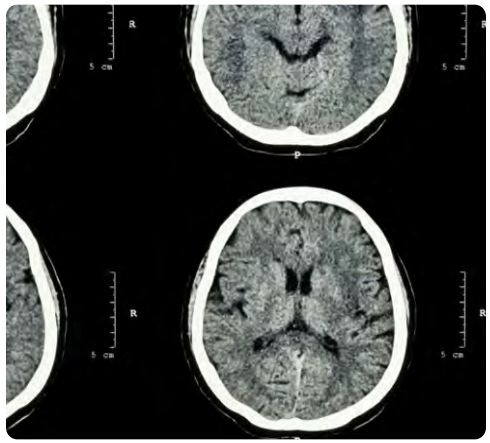
(0.1 mSv)

≈

10 Days Background Radiation (~0.1 mSv)

≈

Round Trip HK and London (0.08 mSv)



CT Chest (~7-10 mSv)

>80% of local radiographers receive <0.17 mSv per year

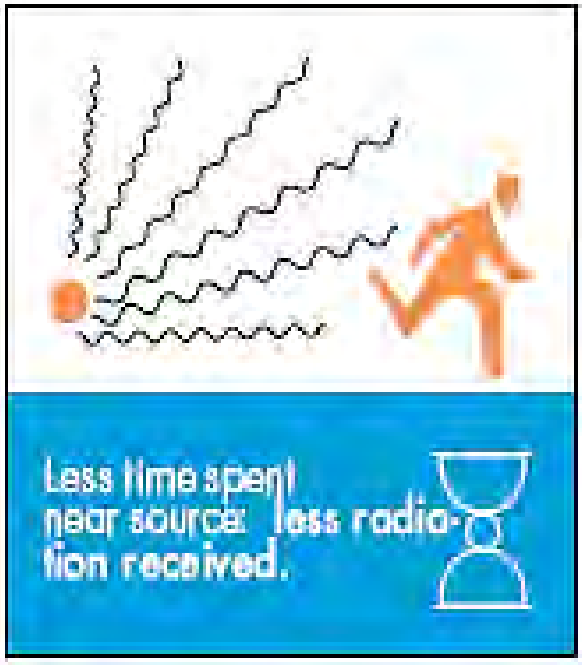
Level of Radiation Exposures

4,000 mSv	Lethal dose (50% chance of death)
4,000 mSv	Annual limit of Hong Kong Radiographers / EU airline crew
10 mSv	Full Body CT
2 mSv	One year background radiation in Hong Kong
<1 mSv	Annual dose of >95% Hong Kong Radiographers | Chest X-ray

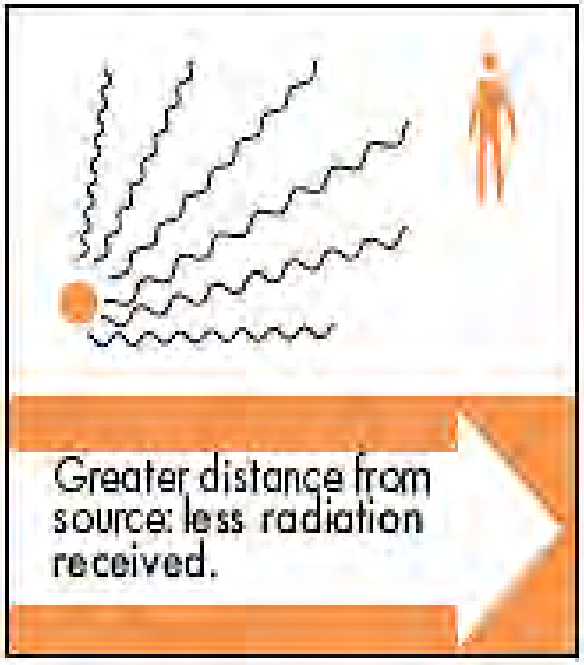



Radiation Protection is KEY

Time



Distance



Shielding

Radiation Protection is KEY

Programme Overview

Master of Medical Imaging (MMI)

- 2-year Full-time Professional Master Programme
- 90 credits (1 credit = 13 hours of work)
  - 6 Foundation Subjects: 19 credits
  - 16 Professional Subjects: 47 credits
  - 4 Clinical Subjects: 24 credits

Progression Pattern*

Master of Medical Imaging

Year 1

Semester One	Semester Two
Clinical and Applied Physiology	Clinical and Applied Physiology
Diagnostic Imaging Studies I	Clinical Skills in Diagnostic Imaging
Diagnostic Radiology Physics	Diagnostic Imaging Instrumentation
Foundations in Medical Imaging Science	Diagnostic Imaging Studies II
Imaging and Applied Anatomy	Imaging and Applied Anatomy
Radiation Biology	Pathology for Medical Imaging
Radiation Safety & Protection	
Winter Break	**Summer Break**
Clinical Practicum I	Clinical Practicum II
	Clinical Skills in Diagnostic Imaging
	Innovations in Research and Services

Year 2

Semester One	Semester Two
Diagnostic Imaging Studies III	Advanced Medical Imaging Informatics
Essential Magnetic Resonance Imaging	Essential Computed Tomography
Healthcare Research and Informatics	Essential Vascular and Interventional Radiology
Innovations in Research and Services	Innovations in Research and Services
Medical Ultrasonography	Legal and Ethical Issues for Healthcare Professions
Nuclear Medicine	
Winter Break	**Summer Break**
Clinical Practicum III	Clinical Practicum IV
Innovations in Research and Services	Innovations in Research and Services

Other Requirements

- Complete the 1-credit Academic Integrity and Ethics (AIE) subject
- Complete the e-learning module on "Understanding China and the Hong Kong Special Administrative Region, P.R.C."

*Subject to change and for reference only. For details of the curriculum, please refer to Programme Requirement Document.

Credit Required for Graduation
91

Tuition Fee
HK$7,850 per credit (x 90 credits) for local and non-local students
(Note: There is no tuition charge for the 1-credit AIE subject)

Mode of Attendance
Full-time mode

Normal Duration
2 years

Entrance Requirements
A Bachelor's degree in sciences, preferably physics, biological sciences or health-related disciplines from PolyU or a recognised institution. Other qualifications may be considered on an individual basis.

Preference will be given to applicants who are able to communicate effectively in English and Cantonese.

Preference will be given to applicants who have obtained credits for each of the following prerequisite undergraduate-level courses before admission to the programme.

- Human Physiology (3 credits or equivalent)
- Human Anatomy (3 credits or equivalent)

Contact Information
Department of Health Technology and Informatics
The Hong Kong Polytechnic University
Web site: www.polyu.edu.hk/hti
Tel : (852) 3400 8578
Fax: (852) 2362 4365
Email: hti.tpg@polyu.edu.hk

Sample Progression Pattern

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

Department of Health Technology and Informatics 醫療科技及資訊學系

Year 1

Semester 1 (15 credits)

Code (Ref Only)	Subject	Credit
HTI5201	Clinical and Applied Physiology	L
HTI5206	Imaging and Applied Anatomy	L
HTI5203	Foundations in Medical Imaging Science	3
HTI5211	Diagnostic Imaging Studies I	4
HTI5204	Radiation Safety & Protection	3
HTI5205	Diagnostic Radiology Physics	3
HTI5007	Radiation Biology	2

Winter (3 credits)

Subject Code	Subject	Credit
Code (Ref Only)	Clinical Practicum I (4 Wks)	3

Semester 2 (18 credits)

Code (Ref Only)	Subject	Credit
		9
	ervices	L
	ging	3

Summer (12 credits)

Code (Ref Only)	Subject	Credit

1 credit ($7,850/credit) = 13 hours of teaching
15 credits = 195 hours
Every lecture hour = 5 hour of self-revision (Level 5 subject)

Year 2

Y2 Semester 1

		Credit
		3
HTI5208	Healthcare Research and Informatics	3
HTI5215	Nuclear Medicine	3
HTI5216	Medical Ultrasonography	3
HTI5213	Diagnostic Imaging Studies III	3
HTI5214	Essential Magnetic Resonance Imaging	3

HTI5219	Innovations in Research and Services	L

Y2 Semester 2

Semester 2 (11 credits)

Code (Ref Only)	Subject	Credit
HTI5209	Advanced Medical Imaging Informatics	2
HTI5219	Innovations in Research and Services	L
HTI5218	Essential Vascular and Interventional Radiology	3
HTI5217	Essential Computed Tomography	3
HTI5101	Legal and Ethical Issues for Healthcare Professions	3

Summer (0 credits)

Code (Ref Only)	Subject	Credit
HTI5223	Clinical Practicum IV (14 Wks)	9
HTI5219	Innovations in Research and Services	4

Clinical Practicum

Essential Training for professional recognition

- Conducted in Hospital Authority and private hospitals departments.
- Clinical Placement: **1,344 hours** across TWO years, required for registration with the Hong Kong Radiographers Board.
- Supervision: Clinical educators and mentors from diagnostic Radiology departments, in collaboration with university staff.
- Assessment System: Progress reports, case worksheets, clinical assessments, OSCE to assess clinical, professional and interpersonal skills

Sample Progression Pattern

		Semester 1 (15 credits)			Winter (3 credits)		
		Code (Ref Only)	Subject	Credit	Subject Code	Subject	Credit
		HTI5201	Clinical and Applied Physiology	L	Code (Ref Only)	Clinical Practicum I (4 Wks)	3
		HTI5206	Imaging and Applied Anatomy	L			
		HTI5203	Foundations in Medical Imaging Science	3			
		HTI5211	Diagnostic Imaging Studies I	4			
		HTI5204	Radiation Safety & Protection	3			
		HTI5205	Diagnostic Radiology Physics	3			
Year 1		HTI5007	Radiation Biology	2			
		Semester 2 (18 credits)			Summer (12 credits)		
		Code (Ref Only)	Subject	Credit	Code (Ref Only)	Subject	Credit
		HTI5201	Clinical and Applied Physiology	4	HTI5221	Clinical Practicum II (14 Wks)	9
						Innovations in Research and Services	L
						Clinical Skills in Diagnostic Imaging	3
		HTI5219	Innovations in Research and Services	L	HTI5222	Clinical Practicum III (4 Wks)	3
	Y2 Semester 1	HTI5208	Healthcare Research and Informatics	3	HTI5219	Innovations in Research and Services	L
		HTI5215	Nuclear Medicine	3			
		HTI5216	Medical Ultrasonography	3			
		HTI5213	Diagnostic Imaging Studies III	3			
Year 2		HTI5214	Essential Magnetic Resonance Imaging	3			
		Semester 2 (11 credits)			Summer (0 credits)		
		Code (Ref Only)	Subject	Credit	Code (Ref Only)	Subject	Credit
		HTI5209	Advanced Medical Imaging Informatics	2	HTI5223	Clinical Practicum IV (14 Wks)	9
	Y2 Semester 2	HTI5219	Innovations in Research and Services	L	HTI5219	Innovations in Research and Services	4
		HTI5218	Essential Vascular and Interventional Radiology	3			
		HTI5217	Essential Computed Tomography	3			
		HTI5101	Legal and Ethical Issues for Healthcare Professions	3			

4 + 14 + 4 + 14 weeks = 36 weeks
5 days/week, 7.5 hrs/day (example)
Total hours ~ 1350 hours

X-RAY Lab
(Tour @ Y1110)

Ultrasound Lab (Block Y, 6/F)

Hybrid Immersive Virtual Environment (HiVE, U202)

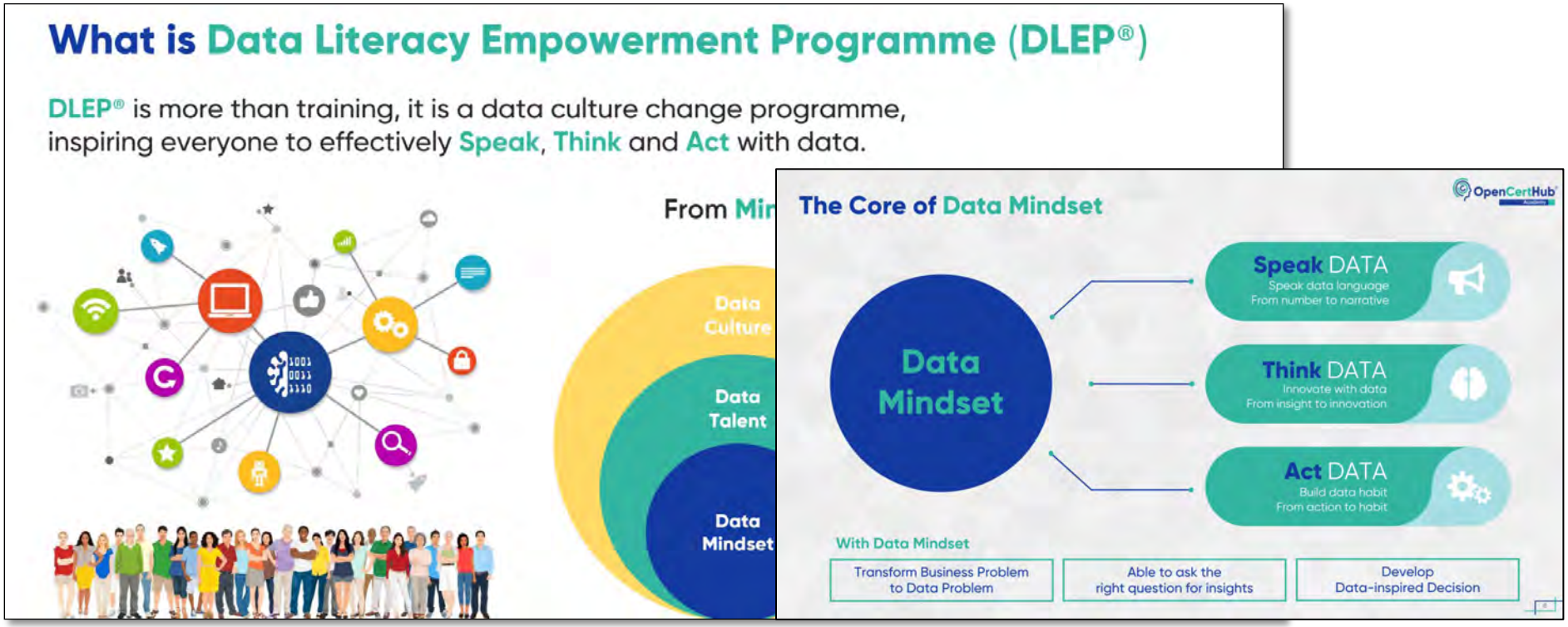
Hybrid Immersive Virtual Environment (HiVE, U202)

BSc Radiography ≠ Master of Medical Imaging

Advanced skills in the AI Era

OpenCertHub®

- Data Literacy Empowerment Programme (DLEP)
  - How to handle, process and apply data in your daily lives



BSc Radiography ≠ Master of Medical Imaging

Advanced skills in the AI Era

OpenCertHub®

- Data
  - o H

Purpose: **Inspire** everyone to **Transform** to create a better **Digital** future
Methodology: **DLEP Journey** – from **Data Mindset** to **Data Culture**

OpenCertHub Academy

DLEP Journey	Your Data Story	Output
1 ▪ Data Mindset Workshop (3 hours)	Ideating Business Problem Relating to Daily Work	Personal Business Problem
2 ▪ Data Storytelling Workshop (3 hours)	Building Your Data Story (Data Problem in Context)	Personal Data Story
3 ▪ Data-inspired Innovation Workshop (3 hours)	Innovating with Data through Problem Reframing	Reframed Data Problem
4 ▪ Data Analytics and Discovery Workshop (3 hours)	Sharpening Data Insights	Quality Data Approach
5 ▪ Data Project (Mentoring: 6 hours + Presentation: 2 hours)	Practicing Data Mindset and Building Data Habit	Team Data Projects

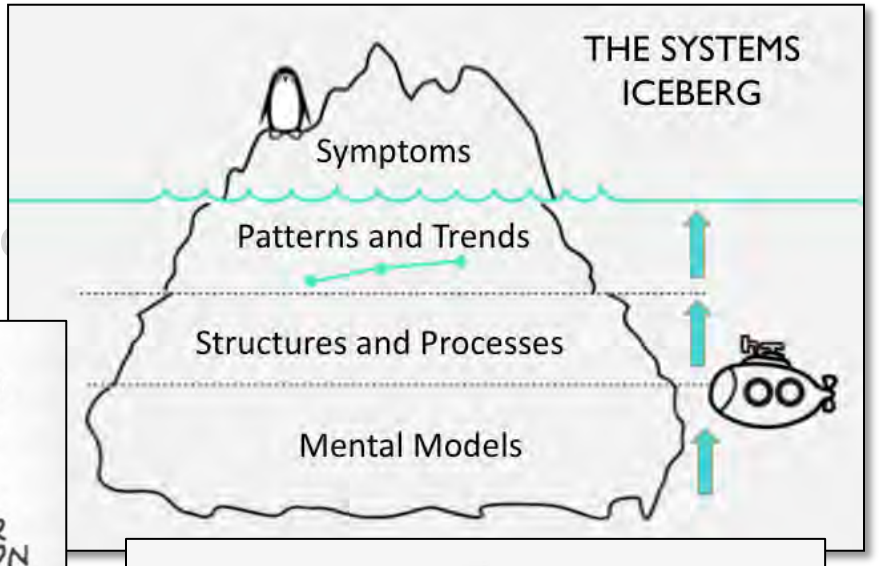
Everyday Workplace

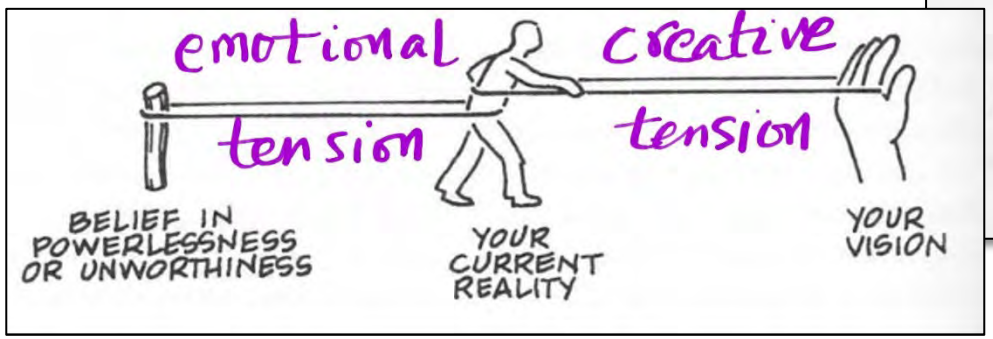
Everyday Data Hero

BSc Radiography ≠ Master of Medical Imaging

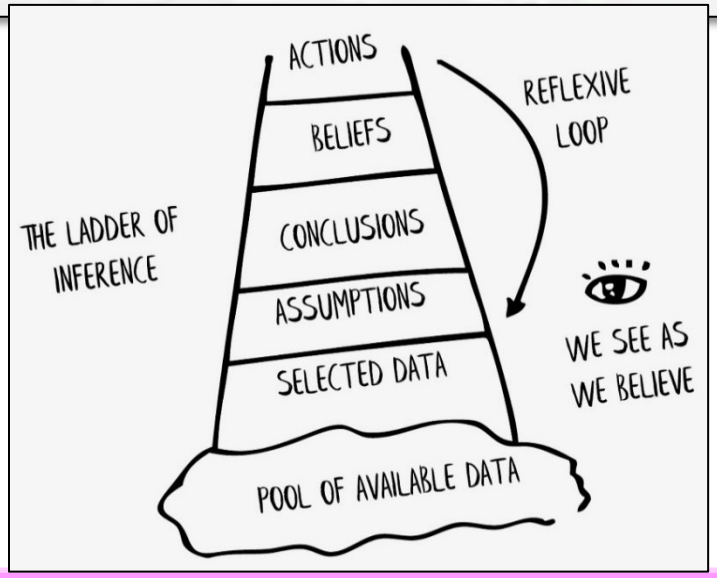
Advanced skills in the AI Era

- Data Literacy Empowerment Pr





- Compassionate System Framework and Awareness
- Thoughts <> Feelings <> Actions



CATALYST Education Lab

Academic Support 1

We are here to support you

1) Academic Advisor

- Address academic concerns and progression
- 'One message away': Approach him/her through email, NOT until too late
- He / She is not your tutor, but to offer ways and resources to assist you
- Please do let your academic advisor informed ASAP if issue(s) arise that will impact on your study

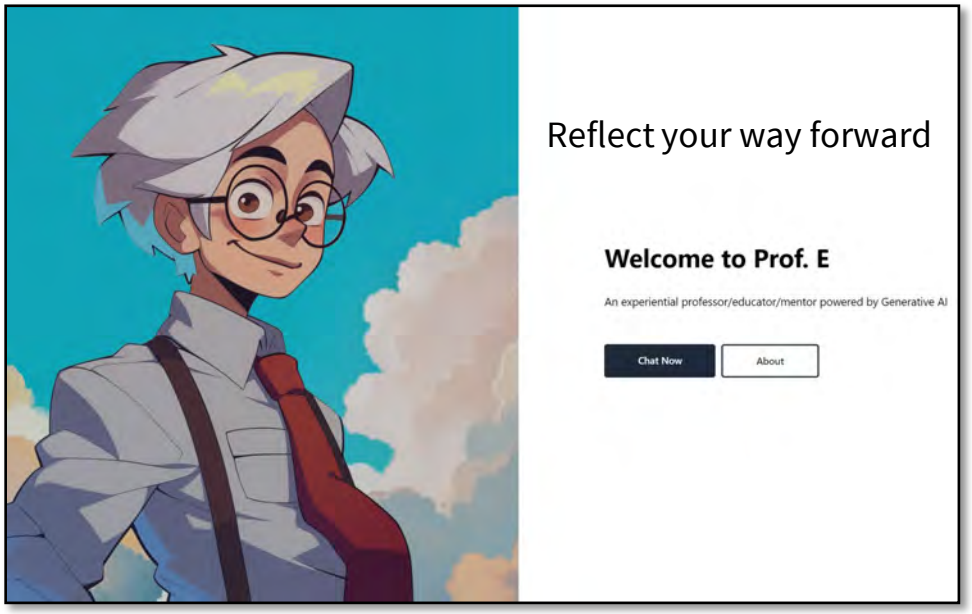
Academic Support 2

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學 x 香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

We are here to support you

2) 'Professor E' Reflective Chatbot

- Personalised, remote academic advisor
- Agile management – optimisation

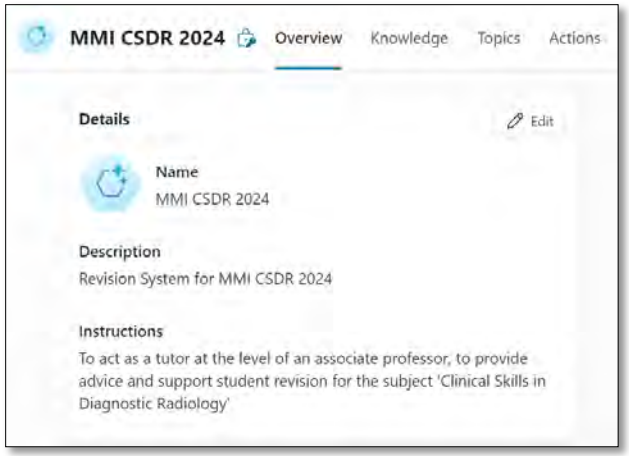


Academic Support 3

Copilot Tutoring Support

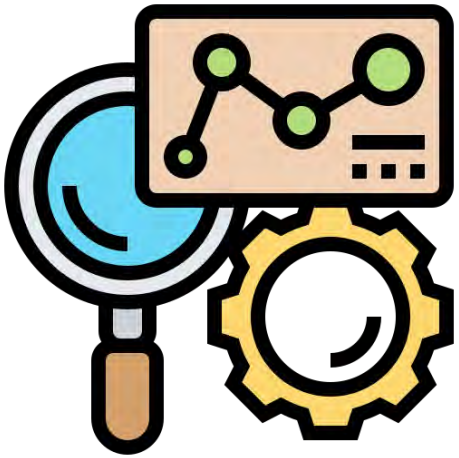
3) Subject-based Revision Chatbot

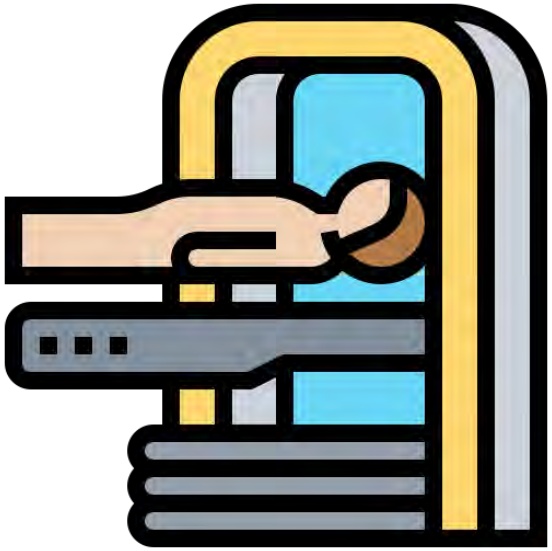
- Tailor-made chatbot with relevant knowledge taught in the course
- Q&A & revision ANYWHERE, ANYTIME
- Available in selected subjects



Job Nature of Radiographers

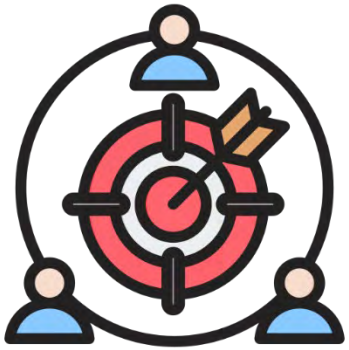
- **Diagnostic Expertise**: Capture vital images for accurate medical diagnosis.
- **Patient Care and Safety**: Ensure patient comfort and minimize radiation exposure.





Job Nature of Radiographers

- **Technical Precision**: Operate advanced imaging equipment with specialized knowledge.
- **Autonomous Decision-Making**: Make critical real-time adjustments, demonstrating independent expertise in optimizing image quality and patient outcomes.



Meaningful Pathway to serve as diagnostic radiographer

Pledge of Professionalism
專業誓章

I willingly pledge the following:

I will respect the dignity and rights of all people.

I will conduct my professional duties with integrity, compassion, fairness and responsibility.

I will uphold and promote the highest standards and ideals of my profession.

I will strive to improve the health and welfare of all in my community.

I make this pledge freely and upon my personal and professional honour.

ENTRANCE REQUIREMENTS

- Bachelor's degree in sciences, preferably physics, biological sciences or health-related disciplines from PolyU or a recognized institution
- **Priority** will be given to applicants who have obtained credits for each of the following prerequisite undergraduate-level courses before admission to the programme
  - Human Physiology (3 credits or equivalent)
  - Human Anatomy (3 credits or equivalent)

Human Anatomy & Physiology

Sample courses accepted as pre-requisite

University	Course code	Subject	Credits	Note
Athabasca University	BIOL 235 / Biology 235	Human Anatomy and Physiology	6	Accepted for Anatomy & Physiology requirements
Excelsior College	BIO 115	Anatomy and Physiology I	3	Applicants must take both BIO 115 and BIO 116 courses to fulfill the total of 6 credits of human anatomy and physiology requirements
Excelsior College	BIO 116	Anatomy and Physiology II	3	Applicants must take both BIO 115 and BIO 116 courses to fulfill the total of 6 credits of human anatomy and physiology requirements
Brigham Young University	CELL 205	Human Biology	x	Accepted for Physiology requirement
Brigham Young University	CELL 210	Human Anatomy	x	Accepted for Anatomy requirement
Southern New Hampshire University	/	Human Anatomy and Physiology I	x	Applicants must take both courses to fulfil the human anatomy and physiology requirements. Verified certificate issued by the course is required.
Southern New Hampshire University	/	Human Anatomy and Physiology II	x	Applicants must take both courses to fulfil the human anatomy and physiology requirements. Verified certificate issued by the course is required.
Western University	KIN 2222 / HS2300A	Systemic Approach to Functional Human Gross Anatomy	x	Accepted for Anatomy requirement
University of Hong Kong	BIOL3205	Human Physiology	6	Accepted for Physiology requirement

PROFESSIONAL QUALIFICATION

(Upon successful accreditation)

- **Hong Kong Registration:** Graduates are eligible for registration on Part Two of the Register of the Hong Kong Radiographers Board.
- **Overseas Recognition:** Graduates are recognized by registration bodies in countries like UK, Canada, New Zealand, and Australia after 1-2 years of clinical experiences.
- Further Information: Contact the respective country's registration bodies for more details.

CAREER PROSPECTS

- Public and private hospitals, clinics
- Medical companies

Entry salary range:
HKD 35,795 – 47,322

仁安醫院 UNION HOSPITAL
SIEMENS medical
Adventist 港 Health 安
養和 HKSH
伊利沙伯醫院 QUEEN ELIZABETH HOSPITAL
St. Teresa's Hospital 聖德肋撒醫院
VARIAN medical systems
瑪麗醫院 QUEEN MARY HOSPITAL
香港浸信會醫院 Hong Kong Baptist Hospital
醫院管理局 HOSPITAL AUTHORITY

CONTACT US

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

Department of Health Technology and Informatics 醫療科技及資訊學系

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34008655

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hti.dept@polyu.edu.hk

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Department of Health Technology and Informatics 醫療科技及資訊學系

Master of Medical Imaging 2024/25 Information Seminar

12 Oct 2024

Dr Shara LEE | Associate Professor

Programme Leader

PhD, MSc (Cardiol), BSc Hons (1st), FHKCRRT, FHEA

Deputy Programme Leader (BSc (Hons) Radiography)

Deputy Programme Leader

Mr. Edward WONG | Associate Professor of Practice

Clinical Coordinator (MMI)