

OBE @ HTI

Introducing Outcome-Based Education

This brochure introduces the concept of Outcome-Based Education (OBE) to you and explains how OBE is relevant to your studies at the Department of Health Technology and Informatics (HTI).

What is
OBE?

A-Grade
Graduate

OBE @ HTI

Intended
Learning
Outcomes

Teaching &
Learning
Activities

Assessment
Tasks

Ownership
of Learning



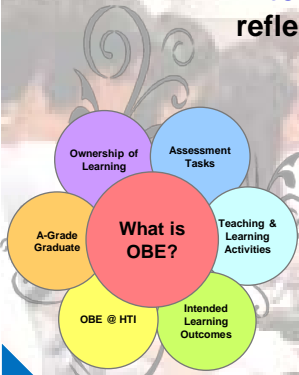
What is OBE?

How does OBE help you reach your target?

With Outcome-Based Education (OBE),



- 🎯 We start from the end and describe what we expect you to be able to do after completing your programme of study. In other words, you should all be informed about which target to hit, or the **intended learning outcomes**, at the very beginning.
- 🎯 All educational decisions on teaching, learning, and assessment are made based on how best to assist you in achieving the **intended learning outcomes**.
- 🎯 You take ownership of your learning and set goals to achieve the **intended learning outcomes**. You are encouraged to monitor and reflect on your learning process for progressive improvement.



Path Leading to an A-Grade Graduate

PolyU is committed to adopt OBE as a strategic move to further improve student learning. The adopted model of OBE includes four major processes:



4 Appraisal for Improvement

Use the collected outcomes assessment data to improve on the programme of study for the benefit of student learning

3 Assessment

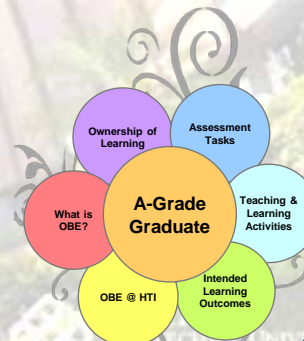
Collect data on students' achievement of learning outcomes, e.g. results obtained from test/examination

2 Alignment

Design the curriculum, teaching and learning activities, and assessment tasks to enable students to achieve the intended learning outcomes

1 Articulation

Define clearly what students should be able to do, i.e. the intended learning outcomes, after completing their programme of study



Attributes of an A-Grade Graduate

As an A-Grade Graduate from PolyU, you are expected to become a competent professional, who is also a critical thinker, an effective communicator, an innovative problem solver, a lifelong learner, and an ethical leader.




Critical Thinker & Lifelong Learner

- Sound Judgment & Logical Reasoning
- Continual Learning & Self-Development



Innovative Problem Solver

- Identification & Definition of Problems
- Creative & Workable Solutions



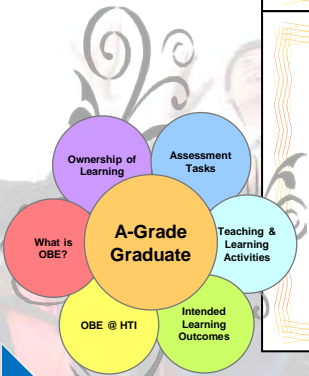
Effective Communicator

- Effective Communication in English and Chinese



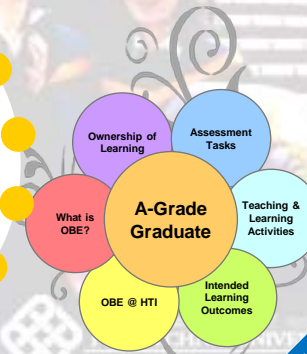
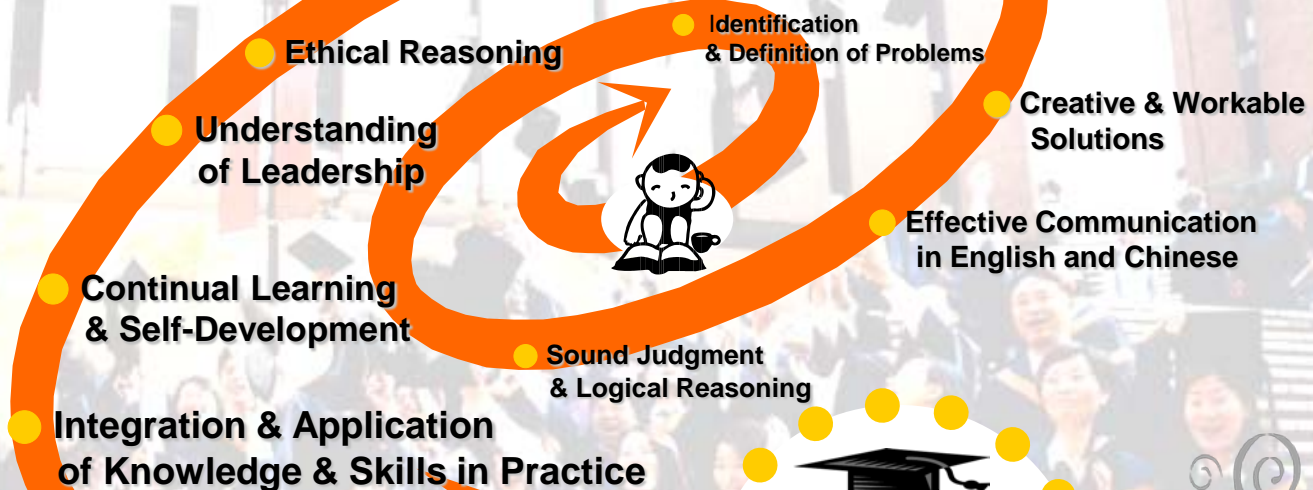
Ethical Leader

- Ethical Reasoning
- Understanding of Leadership



All-Round Development

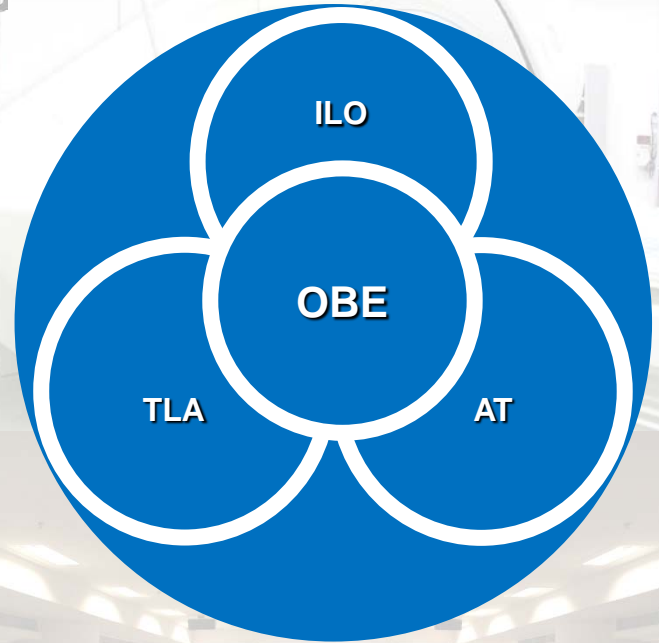
In the course of your study, you have to achieve different learning outcomes of high-level professional competence and all-round development:



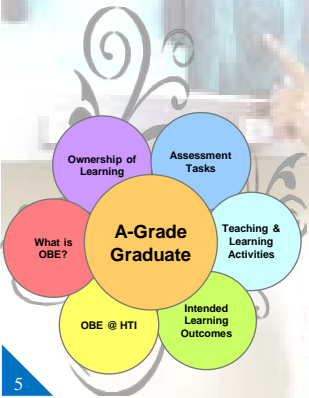
Core Components of OBE

Each subject in your programme of study contributes to the development of those preferred attributes of an A-Grade Graduate in different ways.

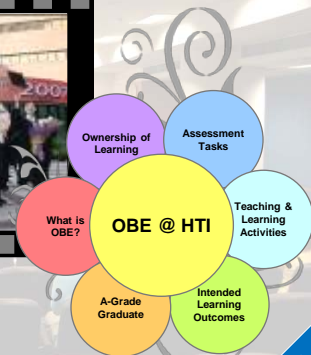
You will find that most of the teaching and learning activities as well as the assessment tasks are closely related to the intended learning outcomes associated with the programme and the subjects.



ILO: Intended Learning Outcomes
TLA: Teaching & Learning Activities
AT: Assessment Tasks



- 🎯 OBE emphasizes the role of university education in preparing students for the demands of modern day society and to excel in their chosen professions.
- 🎯 Your admission to Health Technology and Informatics (HTI) as an undergraduate student is an important step towards becoming a professional in your chosen field.
- 🎯 Programmes under HTI are defined in terms of a set of intended learning outcomes that reflects the qualities expected by the industry as an entry professional, and by PolyU as a preferred graduate and responsible member of our society.
- 🎯 In the following pages, we will present to you the intended learning outcomes and the curriculum overview of our undergraduate programmes in **Medical Laboratory Science (MLS)** and **Radiography (RAD)**.



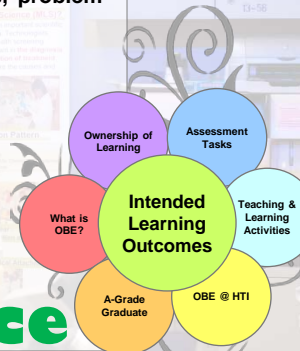
Intended Learning Outcomes

i.e. what you will have achieved upon successful completion of our MLS undergraduate programme.

You will have or be able to:

1. Acquire appropriate foundation knowledge and skills in the biological sciences, providing relevant underpinning for the core Medical Laboratory Science subjects.
2. Acquire appropriate foundation in Medical Laboratory Science in theory and practice to enable you to enter the profession and to practice the fundamentals with an acceptable level of skill in analysis and presentation and interpretation of results.
3. Demonstrate an ability to work in accord with good laboratory practice.
4. Demonstrate an ability to apply knowledge and skills gained from the programme to professional practice and to address profession specific problems in the laboratory and workplace.
5. Demonstrate an ability to relate, integrate and apply the practice of Medical Laboratory Science to the assessment of health and disease status within the health care system.
6. Demonstrate an ability to communicate ideas and to connect and establish positive relationships with different people across a range of professional and personal contexts.
7. Demonstrate an ability to plan and reflect on your own learning, as well as being able to understand the need for lifelong learning and to have the skills to engage in independent learning for professional and personal development.
8. Demonstrate an ability to develop the attributes of inquiry, independent learning, critical analysis, problem solving, creativity and team work.

Medical Laboratory Science



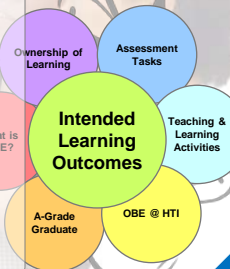
Intended Learning Outcomes

i.e. what you will have achieved upon successful completion of our RAD undergraduate programme.

You will have or be able to:

1. Demonstrate foundation knowledge by using them appropriately in the development of applied subject areas and in the medical imaging or radiation therapy clinical situation.
2. Undertake general radiographic examinations/radiation therapy planning and treatment safely and competently within the discipline, and demonstrate an ability to adapt procedures to patient condition, pathology, or environmental requirements.
3. Apply knowledge of medical imaging or radiotherapy concepts and techniques to actively participate in diagnostic or therapeutic management of patients in the clinical team.
4. Demonstrate understanding and application of radiation protection measures appropriate to individual situations and within the bounds of current legislation and codes of practice.
5. Demonstrate an ability to communicate effectively with colleagues and patients to facilitate:
 - (i) integration of overall diagnostic processes, treatments and patient care
 - (ii) understanding and co-operation by the patient.
6. ***Medical Imaging (MI)***
 - (i) Demonstrate understanding of the working principles and optimal operation of general radiography and specialist imaging equipment.
 - (ii) Analyze and determine the information required from examinations likely to lead to more specialized imaging procedures, and demonstrate an ability to assess images to assist the examination process.***Radiation Therapy (RT)***
 - (i) Demonstrate understanding of the basic working principles of main radiotherapy equipment.
 - (ii) Analyze information from conventional or specialist imaging sources to facilitate localization, planning and dose delivery of radiation therapy.
 - (iii) Appreciate various radiotherapy techniques and specialized modalities in the treatment of cancer.
7. Undertaken any examination/treatment cognizant of the ethical and medico-legal factors involved.
8. Demonstrate an ability to extract, analyze and use information relevant to maintenance of and development within current practice.
9. Appreciate the roles and applications of informatics in medical imaging and radiation therapy professions.
10. Demonstrate understanding of the local health care system and demonstrate an ability to assume the responsibilities of a radiographer or radiation therapist and provide holistic patient care during radiographic or radiotherapeutic procedures.
11. Develop the attributes of inquiry, independent learning, critical analysis, problem solving and creativity in their self and guided studies.
12. Display confidence, self-evaluative and leadership skills.

Radiography



Overview of Three-Year Curriculum: Medical Laboratory Science (MLS)



Phase: Application & Development

YEAR 3

Human Genetics
Laboratory Informatics & Management
Pathophysiology
Final Year Project

Phase: Development
(with clinical training offered in summer)

YEAR 2

Clinical Chemistry: Concepts & Principles
Interpretative & Practical Clinical Chemistry
Medical Microbiology: Concepts & Principles
Interpretative & Practical Medical Microbiology
Cellular Pathology: Concepts & Principles
Interpretative & Practical Cellular Pathology
Haematology: Concepts & Principles
Interpretative & Practical Haematology
Introduction to Clinical Research
Elective Subjects

Phase: Introduction

YEAR 1

Physiology
Immunology
Generic Anatomy
Human Biochemistry
Cells in Health & Disease
Molecular Biology in Medicine
Fundamentals of Public Health
Laboratory Techniques & Safety
Clinical Laboratory Instrumentation
General Education
English for University Studies

List of Elective Subjects:

- Ageing & Disease
- Diagnostic Cytology
- Medico-Legal & Ethical Issues
- Molecular Diagnosis of Human Disease
- Cell Technology for Biomedical Research
- Scientific Aspects of Traditional Chinese Medicine
- Environment & Disease
- Virology



Co-curricular Activities Throughout University Study



Overview of Four-Year Curriculum: Medical Laboratory Science (MLS)



Phase: Application & Development

YEAR 4

Human Genetics
Current Topics in Laboratory Medicine
Molecular Diagnosis of Human Disease
Legal and Ethical Issues in Healthcare
Final Year Project

Phase: Development
(with clinical training offered in two summers)

YEAR 2 & 3

Introduction to Medical Laboratory Science
Core Subject: Haematology
Core Subject: Medical Microbiology
Core Subject: Clinical Chemistry
Core Subject: Cellular Pathology
Introduction to Clinical Research
Human Biochemistry
Cells in Health & Diseases
Immunology
Biostatistics
Pathophysiology
Molecular Biology in Medicine
Medical Virology

Cluster-Area Requirements & Elective Subjects

Phase: Introduction

YEAR 1

Freshman Seminars
Exploring Medical Laboratory Science
Laboratory Techniques & Safety
Clinical Laboratory Instrumentation
Human Physiology
Human Anatomy
General Chemistry
Healthy Lifestyle
Leadership Development
Service Learning

Language & Communication Subjects

List of Elective Subjects:

- Environment & Disease
- Laboratory Informatics & Management
- Scientific Aspects of Traditional Chinese Medicine
- Cell Technology for Biomedical Research
- Medical Informatics



Co-curricular Activities Throughout University Study

Overview of Three-Year Curriculum: Radiography (RAD)



Phase: Application & Development

YEAR 3

Computed Tomography
Radiography Studies V* & VI*
Clinical Studies III & IV (MI or RT)
Elective Subjects #
Final Year Project

Phase: Development
(with clinical training offered in summer)

YEAR 2

Radiation Protection
Introduction to Clinical Research
Radiography Studies III & IV*
Medical Informatics
Medico-Legal & Ethical Issues
Clinical Studies II (MI or RT)
General Education
Elective Subjects #
Professional English in Radiography

Phase: Introduction

YEAR 1

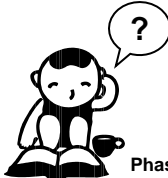
Radiation Physics
Generic Anatomy
Foundation Physiology I & II
Radiography Studies I & II
Radiobiology
Foundation Pathology I
Professional English in Radiography

* Radiography Studies IV, V and VI
comprise Syllabus A (Medical Imaging)
and Syllabus B (Radiation Therapy).

Elective subjects include professional
related subjects and generic subjects.



Co-curricular Activities Throughout University Study



Overview of Four-Year Curriculum: Radiography (RAD)



Phase: Application & Development

YEAR 4

Magnetic Resonance Imaging
Final Year Project

* Core Subjects in Medical Imaging (MI) Stream

- Medical Imaging Instrumentation
- Medical Imaging Studies
- Imaging Informatics
- Ultrasonography
- Radionuclide Imaging

* Core Subjects in Radiation Therapy (RT) Stream

- Radiotherapy Equipment & Dosimetry
- Radiotherapy Studies
- Radiotherapy Patient Management
- Special Cancer Therapy

List of Elective Subjects

- Information Technology
- Mathematics
- Molecular Biology in Medicine
- Laboratory Informatics and Management
- Applied Psychology
- Human Biochemistry

Phase: Development

(with clinical training offered in two summers)

YEAR 2 & 3

Systemic Physiology
Imaging Anatomy
Physics in Radiological Science
Radiographic Imaging Science
Foundation Pathology
Patient Care in Radiography Practice
Radiobiology
Medical Informatics
Radiation Protection
Introduction to Clinical Research
Legal and Ethical Issues in Healthcare
Computed Tomography

Core Subjects in MI/RT Stream *

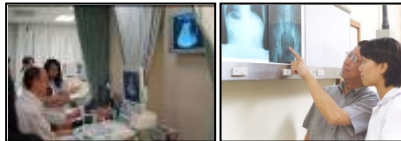
Phase: Introduction

YEAR 1

Freshman Seminars
Exploring Radiography
Human Physiology
Human Anatomy
University Physics
Healthy Lifestyle
Leadership Development
Service Learning

Language & Communication Subjects

Cluster-Area Requirements & Elective Subjects



Co-curricular Activities Throughout University Study



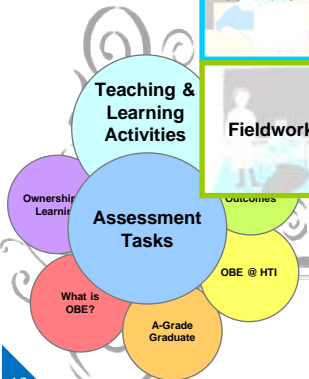
Teaching, Learning and Assessment

Examples of teaching and learning activities that will be used to help you achieve the intended learning outcomes.

 Tutorial	 Self-Directed Learning	 Lecture	 Role Play
 Project	 Teaching & Learning Activities		 e-Learning
 Peer-Tutoring			 Experiential Learning
 Fieldwork	 Laboratory Work	 Simulation	 Problem-Based Learning

Examples of assessment tasks that provide an opportunity for you to demonstrate your achievement of the intended learning outcomes.

 Project	 Reflective Journal	 Case Study	 Seminar Presentation
 Portfolio Writing	 Assessment Tasks		 Assignment
 Essay Question			 Test & Quiz
 Practicum & Clinical Attachment	 Report Writing	 Peer & Self-Assessment	 Examination

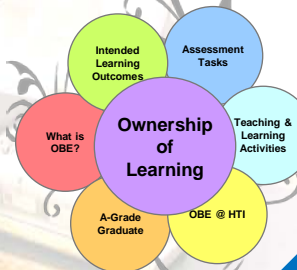


Ownership of Learning

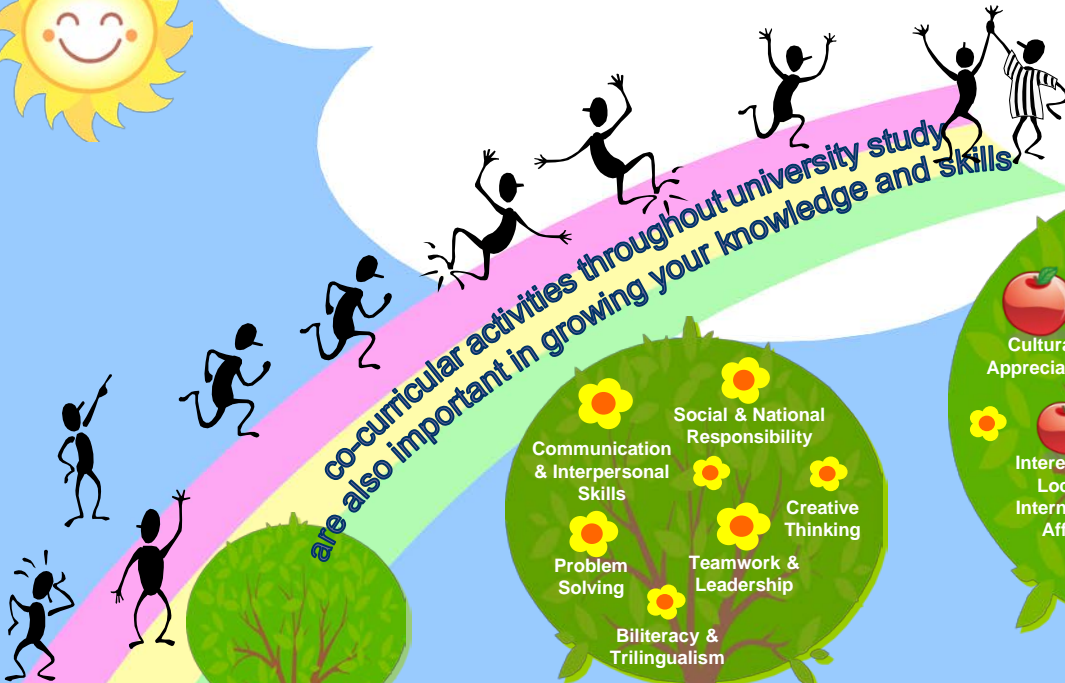


A path leading to an **A-Grade Graduate** has been paved for you with the OBE approach. Now, it is your turn to take ownership of your learning, and grasp every opportunity to show your abilities!

Good Luck in Your Studies and
Welcome to HTI & PolyU !



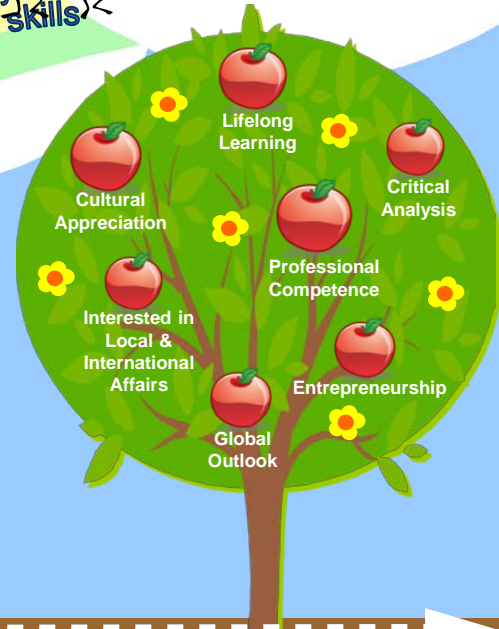
Outcome-Based Education



co-curricular activities throughout university study
are also important in growing your knowledge and skills



Communication & Interpersonal Skills
Problem Solving
Biliteracy & Trilingualism
Social & National Responsibility
Teamwork & Leadership
Creative Thinking



Cultural Appreciation
Interested in Local & International Affairs
Global Outlook
Lifelong Learning
Professional Competence
Entrepreneurship
Critical Analysis

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Further information on OBE is available at: <http://www.polyu.edu.hk/obe/students>