



HIGHER CERTIFICATE IN MEDICAL LABORATORY SCIENCE

醫事技術高級證書

PROGRAM CODE: HS027A

APPLICATION CODE: 1645-HS027A



HIGHLIGHTS

- Higher Certificate in Medical Laboratory Science is a two-year part-time programme designed for those technical staff working in medical related laboratories to pursue a professional education in medical laboratory science.
- The programme is demanding and can be considered as a gateway to the academic and professional advancement. The Higher Certificate is equivalent to the UK Higher National Certificate (HNC) courses in Medical Laboratory Science and is recognized by the Edinburgh Napier University (UK) as an access qualification to its degree course in Biological Sciences (a part-time and locally taught programme jointly offered by HKU SPACE and Edinburgh Napier University).
- **PROFESSIONAL RECOGNITION:** holders of this Higher Certificate with relevant medical laboratory experience can apply to register under the Medical Laboratory Technologists (Registration and Disciplinary Procedure) Regulation 1990 to practice in medical laboratories of Hong Kong.

PROGRAMME STRUCTURE

Three modules, Biochemistry, Physiology and Integrated Medical Laboratory Studies are *mandatory*, whilst the **fourth** module is selected as an *elective*. The structure of the programme is as follows:

Year 1	Year 2
<p>Compulsory Modules Biochemistry 1 Physiology 1 Integrated Medical Laboratory Studies 1 Plus ONE of the following elective specialist modules: Clinical Biochemistry 1 Haematology and Serology 1 Histopathology and Cytology 1 Medical Microbiology 1</p>	<p>Compulsory Modules Biochemistry 2 Physiology 2 Integrated Medical Laboratory Studies 2 Plus ONE of the following elective specialist modules: Clinical Biochemistry 2 Haematology and Serology 2 Histopathology and Cytology 2 Medical Microbiology 2</p>

The number of electives offered will be subject to demand and the availability of teaching resources. In Year 2, students must study the same elective specialist module as in Year 1.

COURSE CONTENT

BIOCHEMISTRY

Topics include the revision on physical chemistry; contemporary nuclear chemistry; basic instrumentation and laboratory safety; chemistry of amino acid, peptides and protein; enzymology; carbohydrate metabolism; bioenergetics, mitochondrial electron transport and oxidative phosphorylation; lipid metabolism and ketosis; cholesterol and steroids; amino acid metabolism; nucleic acids, nucleotides and genetic materials; genetic code and transcription; protein synthesis and gene regulation; membrane biochemistry and transport of metabolites; biochemical aspects of hormone action; cancer biochemistry; introduction to cytogenetics; recombinant DNA technology; principles of molecular diagnosis; laboratory practicals.

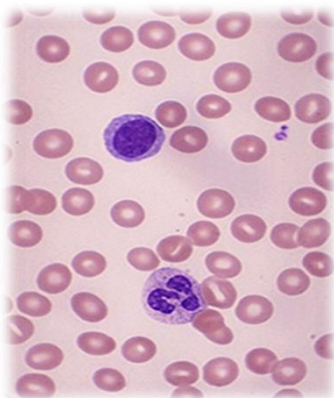


PHYSIOLOGY

Topics include the fundamentals of cell biology; functions of body fluids; introduction to cardiovascular system; bloods and the lymphatic system; gaseous exchange and the respiratory system; nerve and muscle; nutrition and the alimentary system; use of laboratory animals; nervous system: special senses (coordination and response) and central / peripheral / autonomic nervous system; introduction to endocrine system; reproduction & pregnancy; introduction to urinary system; pathophysiology of special tissues; laboratory practicals.

INTEGRATED MEDICAL LABORATORY STUDIES

The Integrated Medical Laboratory Studies module consists of: Clinical Biochemistry / Haematology and Serology / Medical Microbiology / Histopathology and Cytology for non-specialists and Laboratory Management.



CLINICAL BIOCHEMISTRY

The first year of study focuses on the fundamentals of chemical pathology and the principles of instrumental techniques used in the contemporary clinical biochemistry laboratory. Current developments in methodology and instrumentation will be discussed where appropriate.

The second year of study focuses on the chemical pathology of the diseases and the appropriate laboratory tests for their diagnoses.

HAEMATOLOGY AND SEROLOGY

Haematology: Topics include the haemopoietic system; basic haematology techniques; blood cell morphology; clinical immunology; erythrocyte disorders and laboratory investigations; leucocyte disorders and laboratory testings; laboratory aspects for diagnosis and classification of haematological disorders; haemostasis and thrombosis; quality control in haematology and serology laboratories; laboratory practicals.

Serology: Topics include the blood group serology; red cell antigen-antibody reactions; compatibility testing; blood banking and transfusion practices; the major histocompatibility complex and HLA system; bone marrow transplant; laboratory practicals.

HISTOPATHOLOGY AND CYTOLOGY

Topics include the principles and applications of light and specialized microscopy; histology of principal organs and specialized tissues; tissue preparation, processing and sectioning; basic principles and methods in dyes and staining; cytology and exfoliative cytology; enzyme histochemistry, immunohistochemistry and electron microscopy; introduction to general pathology; molecular pathology techniques and clinical applications in histopathology; laboratory safety and quality assurance; laboratory practicals.



MEDICAL MICROBIOLOGY

Topics include Bacteriology / Parasitology / Virology / Immunology / Medical Mycology / Molecular diagnostics and bioinformatics / Laboratory practicals.

COURSE DURATION AND COMMENCEMENT

The course lasts for two calendar years. The programme tentatively will commence in **mid-September 2018** and will normally meet three evenings a week plus summer classes from June to August. The evening classes include:

Module	Class Day (tentatively scheduled)	Time
Biochemistry	Every Friday	6.30 – 9.30 pm
Physiology	Every Tuesday	6.30 – 9.30 pm
Integrated Medical Laboratory Studies (classes are conducted from June to August)	Monday / Wednesday / Friday	6.30 – 9.30 pm
Clinical Biochemistry	Every Thu (Year 1) / Every Wed (Year 2)	6.30 – 9.30 pm
Haematology and Serology	Every Thursday	6.00 – 9.00 pm
Histopathology and Cytology	Every Monday	6.30 – 9.30 pm
Medical Microbiology	Every Wednesday	6.00 – 9.00 pm

TEACHING VENUE

- Queen Mary Hospital, Pokfulam Road, Hong Kong
- LKS Faculty of Medicine Building, The University of Hong Kong, Sassoon Road, Hong Kong
- HKU SPACE Learning Centres

EXAMINATIONS

- Examinations will be held at the end of each academic year (Year 1 and Year 2)
- Student who failed in only one paper is required to take a supplementary examination in that paper on payment of a re-examination fee
- The pass marks for written and practical examinations are 40% and 50% respectively.

AWARD

The Higher Certificate in Medical Laboratory Science will be awarded to candidates who have fulfilled the following criteria:

- an attendance of 75%;
- a pass in all examinations; and
- satisfactory completion of coursework

MEDIUM OF INSTRUCTION

English

ADMINISTRATIVE / TEACHING STAFF

The programme will be taught by a panel of part-time tutors who are working in the universities, hospitals, government, government-subsidized services or in private practice. The following HKU SPACE staff are responsible for the overall course administration.

Dr KC Tan-Un, BSc, MSc, PhD

Dr Michael Chau, BSc, PhD

Mr KM Au, MSc, ACB

ADMISSION REQUIREMENTS

Applicants shall have attained:

- a UK Ordinary National Certificate or Ordinary Technical Education Council Certificate, or an Ordinary Certificate in Medical Laboratory Science awarded within the HKU system through HKU SPACE, or a Diploma in Medical Laboratory Science from the HK Polytechnic University; **OR**
- HKALE Grade E in 2 AL science subjects, one of which must be Chemistry, and 5 passes in HKCEE, including 2 science subjects and Level 2* in English Language; **OR**
- HKDSE Examination Level 2 or above in 5 subjects including English Language, Chinese Language and preferably Chemistry; and a Diploma in a Biological Science or Biomedical Science related discipline, **OR**
- a qualification deemed to be equivalent to the above.

The applicant is also expected to be employed in a medical-related laboratory and should normally be sponsored by his employer, and preferably with 2 years' practical laboratory experience.

Applicants with other equivalent qualifications will be considered on individual merits.

- * With effect from 2007, HKU SPACE recognizes Grade E previously awarded for English Language (syllabus B) and Grade C in the case of English Language (syllabus A) at HKCEE as an acceptable alternative to Level 2 in English subject at HKCEE.

FEES

Course fee (Year 1) in one single instalment: **HK\$67,000**

Course fee (Year 2) in one single instalment: **HK\$67,000**

(Please note that the above course fee is subject to review)

Application fee: **HK\$150** (non-refundable)