

Applied Learning (Senior Secondary Level)

2020-22 Cohort

Learning and Teaching

Subject Title : **Medical Laboratory Science**
Area of Studies : **Applied Science**
Course Provider : **School of Professional and Continuing Education,
The University of Hong Kong**

In Medical Laboratory Science, student-centred learning and teaching activities are designed to enable students to understand fundamental theories and concepts, develop their generic skills, and address their career aspirations in medical laboratory science.

Different modes of activities are employed to provide students with a systematic understanding about the context (e.g. lectures introducing the medical laboratory) and eye-opening opportunities to experience the complexity of the context (e.g. visits to medical laboratories, blood and stem cell banks and talks by medical laboratory science practitioners).

Students acquire an understanding of the requirements, fundamental knowledge and skills essential for further learning within the area through learning-by-practising opportunities in an authentic or near-authentic environment (e.g. practical work and workshops using professional grade equipment).

Students are also encouraged to develop and apply conceptual, practical and reflective skills to demonstrate entrepreneurship and innovation (e.g. developing a new or adopting an alternative testing method for the diagnosis of a specific disease).

Students are given opportunities to integrate the knowledge and skills acquired and consolidate their learning (e.g. when developing a new testing method for the diagnosis of a disease, students need to define the target which the testing method detects, apply or modify diagnostic techniques to detect the target, and devise quality assurance procedures for the new testing method).

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Curriculum Pillars of Applied Learning in Context – Medical Laboratory Science

Upon completion of the subject, students should be able to:

- describe the roles and functions of different clinical specialties of a medical laboratory;
- apply practical skills and problem-solving skills in medical laboratory practice;
- interpret specific laboratory test result and correlate it to health conditions;
- describe the work ethics and demonstrate understanding of safety precautions in medical laboratory practice;
- recognise the importance of quality assurance in medical laboratory practice; and
- develop self-understanding for further studies and career development in the related field.

Through the specific contexts related to the subject, students have different learning opportunities, for example:

1. Career-related Competencies

- develop an awareness of the value of scientific investigation to health and disease management;
- enhance the knowledge on the development trend of the medical laboratory science industry through laboratory visits and lectures by medical laboratory science practitioners;
- describe the roles and functions of different clinical specialties of a medical laboratory; and
- enhance the understanding of the medical laboratory science industry competency requirements and standards.

2. Foundation Skills

- strengthen communication skills both in verbal and written forms through working on laboratory reports, and project reports and presentations;
- strengthen information technology skills through information collection for assignments and projects; and
- develop mathematical skills through data interpretation and laboratory result calculation.

3. Thinking Skills

- develop critical thinking skills and analytical skills through interpretation of laboratory data and test results;
- develop problem-solving skills, creativity and decision-making skills through group project on developing a new or adopting an alternative testing method for the diagnosis of a specific disease; and
- integrate knowledge from different areas including science, mathematics and liberal studies.

4. People Skills

- demonstrate team spirit through collaboration with team members in group work and project;
- establish concept of division of work through understanding of the roles and functions of different health care practitioners in the context of medical laboratory practice; and
- develop self-management skills through practice in a simulated laboratory environment with prescribed procedures and guidelines.

5. Values and Attitudes

- develop honesty and integrity in the process of scientific investigation;
- appreciate the importance of professional ethics and confidentiality of patients' information through case studies;
- develop the motivation and willingness to improve through experience sharing by medical laboratory science practitioners; and
- develop the concern for safety of patients and co-workers through participation in laboratory visits and practical work.