

Course Title/Code: **Techniques and Applications of Molecular Pathology (MMPH6139)**

Department: Pathology

Objective: Techniques and Applications of Molecular Pathology in the:

1. Diagnosis of tumors
2. Genetic testing for familial cancers
3. Genetic testing for the susceptibility to cancers
4. Plasma based molecular diagnosis
5. Personalized medicine
6. Emerging molecular markers of cancer - Evaluating for clinical use (Investigative)

Content:

1. Role of Molecular Pathology in the Diagnosis of Diseases
2. Molecular Pathology of Virus-Related Diseases I – Human Papilloma Virus
3. Molecular Pathology of Virus-Related Diseases II – Epstein Barr Virus
4. Molecular Diagnosis of Genetic disorders
5. Molecular Diagnosis of Malignant Lymphoma
6. Defects in DNA Mismatch Repair and Colonic Cancer
7. DNA Methylation Study and its Association with Cancer
8. Genetic Screening for Cancer Susceptibility I – Familial Colorectal Cancer
9. Genetic Screening for Cancer Susceptibility II – Breast and Ovarian Cancer
10. DNA and its Impact on Human ID
11. Student/essay presentation

Learning outcomes: On completion of the course, the students are expected to:

- have an in-depth understanding of the role of molecular genetics and genomics in assisting diagnosis of tumors, and genetic testing for familial cancers
- demonstrate their ability to self-study and have written an essay in their own words
- demonstrate their ability to make power point presentation on the essay topic

Prerequisite: None

Duration: 24 contact hours

Continuous assessment: One essay of 2,500 words on an assigned topic and an oral presentation based on the topic assigned (20%)

**Examination method/
duration:** Written examination / 2 hours (80%)

Remarks: Also offered to RPg from other Faculties at HKU

