

**SEMESTER II**  
**LSM4225 GENETIC MEDICINE IN THE POST-GENOMIC ERA**

**Prerequisite:** LSM2102

**Workload:** 28 lecture hours + 22 presentation/self-directed learning/preparation hours

This module is intended to provide a good foundation and stimulate students' interest in specialized topics in Genetics and Genomics related to translational research. The module will provide students with **knowledge** of current practices in Genetic Medicine. Students will also **know how** gene identification, diagnostic and therapeutic strategies are formulated and performed. They will also be expected to **show how** to translate new genetic and genomic discoveries into novel diagnostic and therapeutic strategies.

S/N	Topics	Lecture Hours	Lecturer
1.	<b>Introduction and Review</b> i. Review of Human Genetics Principles	4	CGL
2.	<b>Genetic Testing</b> i. Cytogenetics ii. Molecular Genetics	10	SSC
3.	<b>High-Throughput / Ultra-High Throughput Strategies for Genetic Medicine</b> i. Arrayed expression profiling ii. Massively parallel sequencing	5	CGL
4.	<b>Identification of Disease Genes and Pharmacogenetics/Pharmacogenomics</b>	4	CGL
5.	<b>Molecular Therapy</b> i. Cell Therapy ii. Gene Therapy	4	CGL
6.	<b>Summary and Conclusion</b> i. Ethical, legal, and social issues in genetic medicine	1	CGL
7.	<b>Tutorial, Projects and Presentations</b>	22	SSC & CGL
<b>Total contact hours:</b>		50h	

**MODE OF ASSESSMENT:** Projects & Presentations: 50%; Semester examination: 50%

**MODULE COORDINATORS:**

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**LECTURERS:**

A/P Caroline Lee (CGL)

A/Prof Samuel Chong (SSC)