

THE FUNDAMENTALS OF HUMAN GENETICS AND GENOMICS

Duration	5 days of face-to-face teaching plus self-directed learning
Cost:	£1250. If you are an NHS employee, full funding is available through Health Education England
Tutors:	Dr Kate Everett – St George's University of London Genetics Research Centre, Reader in Human Genetics Prof Guy Tear – King's College London, Prof of Molecular Neurobiology
Location:	St George's University of London



This module will cover the key elements of human molecular genomics which students need as standalone knowledge and to provide a foundation for further modules within Genomic Medicine. Students will learn about the structure of the genome and genes, how genetic information is transferred from DNA to protein, about different patterns of inheritance and different types of genetic variation, and how scientists and clinicians try to identify disease genes and mutations.

AIMS

- Prepare students to understand the role of genetics in disease and how genomic information can be utilised to elucidate disease mechanism and biology, and its role in personalised medicine.
- Serve as a foundation for those wishing to advance their careers within the NHS in genomic medicine.

LEARNING OUTCOMES

By the end of this module the student will be able to:

- Explain core elements of genome architecture, including the properties of DNA and chromatin structure
- Critically evaluate the regulation of gene expression, transcription and translation
- Interpret variation in genome structure and sequence in the context of physiological function and disease, and across human populations
- Describe the correlation between genotype and phenotype

ENTRY REQUIREMENTS

Applicants should have a minimum of a lower second class degree (2:2) in a subject that offers an appropriate grounding in science, genetics or healthcare. Alternative professional qualifications may be considered.

PREREQUISITES

We offer Massive Open Online Courses (MOOCs) which you can study online to deepen your understanding.

We suggest the following courses:

The Genomics Era: the Future of Genetics in Medicine

Genomic Technologies in Clinical Diagnostics: Molecular Techniques

Genomic Technologies in Clinical Diagnostics: Next Generation Sequencing

These courses are available at: www.futurelearn.com/partners/sgul

More information at kcl.ac.uk/genomicmedicine

Apply via sgul.ac.uk/genomics