

# CARDIOVASCULAR GENETICS AND GENOMICS

Duration	4 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 Tessa Homfray – St George's University Hospitals NHS Foundation Trust, Consultant in Medical Genetics Dr Yalda Jamshidi, St George's University of London Human Genetics Research Centre, Reader in Genomic Medicine
Location:	St George's University of London



**This module explores the burden of cardiovascular disease and the underlying contribution of genetics to these diseases. You will receive refresher sessions focussed on cardiac anatomy and function as well as being introduced to the key diagnostic tools used in cardiology.**

**You will learn about the major arrhythmias and cardiomyopathies which can lead to premature and sudden death as well as learning about vascular disorders such as stroke. The contribution that the 100,000 genome project could possibly offer to this group of diseases will be discussed as will the development of gene panels and when these can be appropriately offered to patients and by whom.**

## AIMS

- Understand the genetic contribution and complexity of cardiovascular diseases.
- Interpret genetic results in the context of the clinical phenotype.

## LEARNING OUTCOMES

On successful completion of the module, students should be able to:

- Examine the global burden of cardiovascular disease (CVD) and its epidemiology
- Critically evaluate the role of candidate gene approaches and genome wide association studies on CVD.
- Describe and evaluate genetic testing for CVD and the gene-environment interaction in determining disease risk.
- Discuss the genetics of hypertension, stroke, cardiomyopathies, arrhythmias and congenital heart disease.
- Evaluate and discuss the potential for translating the genetics of CVD into clinical practice

## 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

Recommended other modules from our Genomic Medicine portfolio that would form appropriate pre-learning include the Fundamentals of Human Genetics and Genomics, The Genomics of Common and Rare Disease module, Omics Techniques and Technologies and Their Application to Genomic Medicine and Bioinformatics, Interpretation, Statistics and Data Quality Assurance.

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](http://www.futurelearn.com/partners/sgul)

More information at [kcl.ac.uk/genomicmedicine](http://kcl.ac.uk/genomicmedicine)

Apply via [sgul.ac.uk/genomics](http://sgul.ac.uk/genomics)