



Genomic Medicine - Pre-Course Study

Students who enrol on the Genomic Medicine Programme come from a wide range of backgrounds. They may be skilled healthcare professionals, but with little previous experience of genomics, or they may already work in an environment where genomics is part of their daily activity.

Our Programme includes a wide variety of modules to appeal to students with different interests and backgrounds. However the common thread running through all modules is the genomic foundation and we have found that it is of great benefit to students to start to establish this foundation before they join us.

We strongly recommend that nurses and other health professionals with little training in genomics attend our [Intermediate Genomics Access Course](#). This course is provided by the West Midlands Genomic Medicine Centre and runs over 3 days in June each year.

Alternatively, there are a number of online resources which provide much useful information about genomics in an easy to understand format:

The Wellcome Genome Campus provides '[yourgenome](#)' resources - 'bite-sized chunks' which explain genomic terms, as well as interviews, features and animations giving an insight into what is happening in genomics and how it is helping in the fight against human disease.

[Learn.Genetics](#) from the Genetic Science Learning Center of the University of Utah provides a wealth of information about all aspects of genetics. Students should pay particular attention to the '[Tour of Basic Genetics](#)', but should also find that other topics such as [Precision Medicine](#), [Genetic Disorders](#) and [Infectious Diseases](#) provide a good introduction to a number of the Genomics Medicine Modules.

The Genomics Education Programme from Health Education England provides several very useful online courses, particularly '[Introduction to Genomics](#)' and '[Introduction to Bioinformatics](#)'.

Students may also consider undertaking some of Massive Online Open Courses (MOOCs) offered by [FutureLearn](#) in partnership with UK universities. There are many relevant courses including Whole Genome Sequencing, The Future of Genetics in Medicine, Clinical Bioinformatics, Personalized Medicine and Pharmacogenetics, and Cancer in the 21st Century: the Genomic Revolution.



Recommended Texts

1. New Clinical Genetics 3. (2015) Andrew Read, Dian Donnai (£34.99)

"This book provides a wonderful case-based learning environment. There are also self-assessment questions. Students are not given model answers but are provided with guidance on how to work out the correct answers for themselves. Excellent!" Reviewed by Human Genetics.

This text may be ordered direct from www.scionpublishing.com at a reduced price by entering the code ncg35

2. Genetics and Genomics in Medicine. (2014) Tom Strachan, Judith Goodship, Patrick Chinnery (£62.99)

Written for undergraduate students, graduate students, and medical researchers that explains the science behind the uses of genetics and genomics in medicine today. It is a comprehensive and integrated account of how genetics and genomics affect the whole spectrum of human health and disease. DNA technologies are explained. Epigenetics and non-coding RNA are covered in-depth as are genetic approaches to treatment and prevention, including pharmacogenomics, genetic testing, and personalized medicine. Cancers are essentially genetic diseases and are given a dedicated chapter.

3. Medical and Health Genomics (2016) Dhavendra Kumar Stylianos Antonarakis (£87.30)

(University of Birmingham students may download individual chapters from ScienceDirect - <https://www.sciencedirect.com/science/book/9780124201965>)

Provides extensive coverage of the emergent field of health genomics and its huge relevance to healthcare management. Covers the applied, but non-clinical, sciences across disease discovery, genetic analysis, genetic screening, and prevention and management. Details the impact of clinical genomics across a diverse array of public and community health issues, and within a variety of global healthcare systems.