

## Module Specification

Module Title  Module Code   
Credit Value  Level  Mode of Delivery  Semester A

Pre-requisite modules	Co-requisite modules	Overlapping modules
Any 2 <sup>nd</sup> year Genetics module		

### 1) Content Description

Provide a description of the module, as it will appear in the Module Directory and on the Student Information System (approx. 70-80 words).

This course will introduce personal human genomics. We will examine the potential and pitfalls of applying human genetics and genomics to individual humans. The lectures will examine the structure and functions of the human genome, and technologies used to study these. We will survey methods for making inferences from genomic data about: ancestry, genealogy, genetically determined traits, drug efficacy, genome x environment interactions, and genetic diseases. The course will introduce concepts and methods of functional genomics and pharmacogenomics. Workshops will cover ethical aspects of personal genomics, the limitations of personal genomics, data interpretation and visualisation, the need for model organisms, and bioinformatic methods.

### 2) Module Aims

Specify the aims of the module, i.e. the broad educational purposes for offering this module.

To provide students with an understanding of genomic and post-genomic technologies, and knowledge of the potential and limitations of personal human genomics.

### 3) Learning Outcomes

Identify the learning outcomes for this module, i.e. knowledge, skills and attributes to be developed through completion of this module. Outcomes should be referenced to the relevant [QAA benchmark statements](#) and the [Framework for Higher Education Qualifications in England, Wales and Northern Ireland \(2008\)](#). The [SEEC Credit Level Descriptors for Further and Higher Education 2003](#) and [Queen Mary Statement of Graduate Attributes](#) should also be used as a guiding framework for curriculum design.

Academic Content:	
A 1	Understand how genomes are sequenced and characterised
A 2	Understand how genomes reflect ancestry and genealogy
A 3	Understand the strategies and methods for the identification of the genomic basis of traits
A 4	Understand how genomic data is visualised and analysed
A 5	Understand the concepts of functional genomics, for example genome-based approaches for the identification of genes, the expression of genes and human genetic variation
A 6	Understand the principles of pharmacogenomics and their relevance for inter-individual variation in response to therapeutic drugs and for drug development and therapy

A7	Understand the principles and approaches for the use of model organisms
A8	Understand the ethical considerations for the use of personal genomic data

Disciplinary skills - able to:	
B1	Enhance students' understanding of the genomic basis human traits and diseases
B2	Appreciate and gain an understanding of many of the core concepts and experimental approaches of functional genomics and medical genetics and how these can be used to investigate basic biological

Attributes:	
C1	Enhance students' general scientific understanding and knowledge through lecture material and workshops
C2	Coursework will improve planning and organizational skills

#### 4) Reading List

Provide an indicative reading list for the module. This should include key texts and/or journals but **should not** be an exhaustive list of materials.

Concepts of Genetics. Klug et al. Pearson. 2012
Exploring Personal Genomics. JT Dudley and KJ Karczewski. OUP. 2013
Human Genetic Diversity. JC Knight. OUP. 2009

#### 5) Teaching and Learning Profile

Provide details of the method of delivery (lectures, seminars, fieldwork, practical classes, etc.) used to enable the achievement of learning outcomes and an indicative number of hours for each activity to give an overall picture of the workload a student taking the module would be expected to undertake. This information will form the Key Information Set for each undergraduate programme and will be used to populate the KIS widget found on the QMUL programme information pages. More information can be found [online](#) about KIS. You may also wish to refer to the [QAA guidance on contact hours](#) when completing this section.

Activity Type	KIS Category	Time Spent (in hours)
Lecture	Scheduled	22
Classes and workshops	Scheduled	8
Total		30

Specify the total module notional study hours. This should be a total of the hours given for each activity. The notional study hours for each academic credit point is 10. A 15 credit point module therefore represents 150 notional study hours.

Activity Type	Total Time Spent (in hours)	Percentage of Time Spent
Scheduled learning and teaching	30	20
Placement	0	0
Independent Study	120	80
Total	150	100

Use the information provided in the box above to specify the total time spent and the percentage time spent in each category of teaching and learning activity.

## 6) Assessment Profile

Provide details of the assessment methods used to assess the achievement of learning outcomes.

Description of Assessment	Assessment Type	KIS Category	Duration/Length	Percentage Weighting	Final element of assessment	Qualifying Mark
Written Examination	Examination	Written Exam	3 Hours	80%	Yes	
Coursework	Written Assessment	Coursework		20%	No	

**Final element of assessment:** The assessment that takes place last. **There should normally be only one element of assessment marked as final unless two assessment or submission dates occur on the same day.**

**Qualifying mark:** A specified minimum mark that must be obtained in one or more elements of assessment in order to pass a module. **This is in addition to, and distinct from, the requirement to achieve a pass in the module mark to pass the module.**

### Reassessment

Provide details of the reassessment methods used, specifying whether reassessment is either standard reassessment or synoptic reassessment.

- Standard Reassessment       Synoptic Reassessment

Synoptic reassessment details (if you have indicated synoptic reassessment above, please give details)		
Brief Description of Assessment	Assessment Type	Duration/Length of Examination/ Coursework
Resit Examination	Written Exam	3 Hours