Liverpool John Moores University

Title:	GENES AND GENOMES
Status:	Definitive
Code:	**5013NATSCI** (120201)
Version Start Date:	01-08-2019

Owning School/Faculty: Natural Sciences & Psychology
Teaching School/Faculty: Natural Sciences & Psychology

Team	Leader
Craig Wilding	Y
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Academic Level:	FHEQ5	**Credit Value:**	24	**Total Delivered Hours:**	58
Total Learning Hours:	240	**Private Study:**	182		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	30
Practical	20
Workshop	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report	Practical report	50	
Exam	Exam	Final exam	50	2

Aims

To examine the state of the art genetic and genomic tools and techniques used to understand how genes combine with the environment to control phenotypes. To appreciate how knowledge of processes occurring at a genome level is important for

the understanding of the nature of species.

Learning Outcomes

After completing the module the student should be able to:

1. Discuss the mechanisms by which the environment, genes and mutations contribute to phenotype
2. Explain how genetic model organisms are utilised in genetic and genomic research
3. Evaluate the experimental methodology that can be used in genetic and genomic research
4. Discuss how recent genome sequencing techniques can be used in personalised medicine and to understand evolutionary processes such as speciation

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Practical report   1   2   3

Exam   1   2   3   4

Outline Syllabus

Theory underlying, and techniques used to understand the genetic basis of phenotypes and the functional role of genes. The role of model organisms in the understanding of the genetics of disease, evolution and speciation.

Learning Activities

The module is delivered through a combination of lectures, practicals and workshops.

Notes

This course studies how state of the art genetic and genomic tools are used to understand how genes combine with the environment to control organismal phenotypes and disease states. It covers methodologies, practical applications and recent examples of the application of genetics and genomics in the fields of biology, medicine and evolution.