



FACULTY OF SCIENCE  
School of Biotechnology and Biomolecular Sciences

BABS3151

Human Genetics

Term 1, 2021

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## Faculty of Science - Course Outline

### 1. Information about the Course

NB: Some of this information is available on the [UNSW Handbook](#)<sup>1</sup>

<b>Year of Delivery</b>	2021
<b>Course Code</b>	BABS3151
<b>Course Name</b>	Human Genetics
<b>Academic Unit</b>	School of Biotechnology and Biomolecular Sciences
<b>Level of Course</b>	3 <sup>rd</sup> Year
<b>Units of Credit</b>	6UOC
<b>Term(s) Offered</b>	T1
<b>Assumed Knowledge, Prerequisites or Co-requisites</b>	BABS2204 or BABS2264
<b>Contact Hours per Week</b>	7
<b>Number of Weeks</b>	11 weeks



### 3. Course schedule

Lecture 1: Monday 1400-1500 Online		Lecture 2: Tue 1700-1800 Online		Lecture 3: Wed 1300-1400 Online		Tutorial/LAB Wed 0900-1300 BioSci Teaching Lab 10, Lv11 Rowntree Room wks 9 & 10	
Week	Topic/Lecturer	Topic/Lecturer	Topic/Lecturer	Topic/Lecturer	Topic/Lecturer	Topic/Lecturer	Prac/Lab
1 Starts Mon 15/02	Introduction to human genetics/ <b>EO</b> Date: 15/02	Human genome structure/ <b>RE</b> 16/02	Human genome variation/ <b>RE</b> 17/02	Human genome variation/ <b>RE</b> 17/02	Human genome variation/ <b>RE</b> 17/02	Human genome variation/ <b>RE</b> 17/02	Getting to know your gene <b>EO, GS, PS, AS 17/02</b>
2 Starts Mon 22/02	Transcriptomics/ <b>NG</b> 22/02	Alternative splicing & post-transcriptional regulation Garvan guest lecturer/ <b>RW</b> 23/02	Sex determination/ <b>PW</b> 24/02	Sex determination/ <b>PW</b> 24/02	Sex determination/ <b>PW</b> 24/02	Sex determination/ <b>PW</b> 24/02	Non-disease-causing variation within your gene <b>EO, GS, PS, AS 24/02</b>
3 Starts Mon 01/03	Massively parallel genomic sequencing technologies including WES & WGS/ <b>AS</b> 01/03	Proteomics and its application to human genetics/ <b>MW</b> 02/03	Epigenomics Garvan guest lecturer/ <b>OB</b> 03/03	Epigenomics Garvan guest lecturer/ <b>OB</b> 03/03	Epigenomics Garvan guest lecturer/ <b>OB</b> 03/03	Epigenomics Garvan guest lecturer/ <b>OB</b> 03/03	Disease-causing variation within your gene <b>EO, GS, PS, AS 03/03</b>
4 Starts Mon 08/03	Monogenic (Mendelian) disorders/ <b>EO</b> 08/03	Mitochondrial, chromosomal & oligogenic disorders/ <b>EO</b> 09/03	Multifactorial (complex) traits & disorders/ <b>IV</b> 10/03	Multifactorial (complex) traits & disorders/ <b>IV</b> 10/03	Multifactorial (complex) traits & disorders/ <b>IV</b> 10/03	Multifactorial (complex) traits & disorders/ <b>IV</b> 10/03	Interrogating RNA transcript data relevant to your gene <b>EO, GS, PS, AS 10/03</b>
5 Starts Mon 15/03	Different clinical genetic testing scenarios/ <b>EO</b> 15/03	Pre-implantation genetic diagnosis Clinical (CHW) guest lecturer/ <b>KJ</b> 16/03	Systems biology and its application to human genetics/ <b>FV</b> 17/03	Systems biology and its application to human genetics/ <b>FV</b> 17/03	Systems biology and its application to human genetics/ <b>FV</b> 17/03	Systems biology and its application to human genetics/ <b>FV</b> 17/03	<b>Midterm Exam (30%)</b>  <b>EO, GS, PS, AS 17/03</b>
6 Starts Mon 22/03	Week 6 rest week						
7 Starts Mon 29/03	Personalized medicine & ethical considerations in human genetics/ <b>MD</b> 29/03	Applications of human genome sequencing CCI guest lecturer/ <b>MC</b> 30/03	Frontiers in human genetic research Garvan guest lecturer/	Frontiers in human genetic research Garvan guest lecturer/	Frontiers in human genetic research Garvan guest lecturer/	Frontiers in human genetic research Garvan guest lecturer/	Frontiers in human genetic research Garvan guest lecturer/

## 4. Course Details



## 6. Lecture content

### FUNDAMENTAL HUMAN GENETICS

- < Human Genome Structure
- < Human Genome Variation
- < Proteomics
- < Transcriptomics
- < Sex determination
- < Human Evolutionary Genetics
- < Human genetics-related systems biology

### HUMAN GENETIC VARIATION & DISEASE

- < Human genetic mechanisms of disease
- < Oligogenic Traits

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7.



## 8. Additional Resources and Support

### Text Books

There is no textbook set for this course because the topics covered are diverse and no

## 10. UNSW Academic Honesty and Plagiarism

### What is Plagiarism?

own.

\*Examples include:

- < direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or acknowledgement;
- < progression of ideas of the original;
- < piecing together sections of the work of others into a new whole;
- < presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor;

