A close-up of a logo

Description automatically generated with low confidence



*GN3502- Genetics*

*Course Handbook 2023-2024*

*Undergraduate Medical Sciences*

*School of Medicine, Medical Sciences & Nutrition*

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Course Summary

GENETICS: Genetics, which can be said to have started with the rediscovery of Mendel’s rules in 1900, increasingly dominates biological science. What began as an obscure field, concerned with minor variations and quirks, has become an indispensable component of enquiry into almost all aspects of biology and medicine. The increased scope of genetics arises through reinforcement of the classical genetic approach with newer and ever more sophisticated methods of molecular analysis. This partnership of classical and molecular approaches will be increasingly applied to revealing the secrets of nature.

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Course Aims & Learning Outcomes

Aims

The overall GENERAL AIMS are:

To provide a thorough understanding of five major areas in genetics

1. Molecular Genetics
2. Chromosome Biology (Cytogenetics)
3. Developmental Genetics
4. Population Genetics
5. Evolutionary Genetics

Learning Outcomes

* To provide some fundamental, theoretical principles on which to form an integrated view of genetic processes.
* To enable you to experience data handling and statistics, which are integral parts to genetic analysis. This will also serve the general function of increasing your level of experience at performing genetic data analysis.
* To demonstrate and emphasise, where appropriate, the relevance of academic science to the well-being of our species, i.e. the application of genetics to the benefit of mankind and the environment.

Students will develop skills in genetic analysis and data interpretation, communication as well as interpersonal and team-working skills. These represent transferable skills that will benefit students across a range of disciplines.

The aims of the course will be achieved through a combination of lectures, tutorials, and a data handling exercise.

Course Teaching Staff

Course Co-ordinator(s):

Dr Alexander Lorenz (AL) [**a.lorenz@abdn.ac.uk**](mailto:a.lorenz@abdn.ac.uk)

Other Staff:

Professor Martin Collinson (MC)

Dr Andreas Kolb (AK)

Professor Alasdair MacKenzie (AMacK)

Dr Michael Morgan (MM)

Professor Jonathan Pettitt (JP)

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Assessments & Examinations

Assessment

CONTINUOUS ASSESSMENT (35% of total): This will be made up of marks from the written reports of:

|  |  |  |
| --- | --- | --- |
| ASSIGNMENT | | VALUE OF FINAL MARK |
| 1  2  3  4 | Practical Report Writing  Genetics Essay  Bioinformatics Online Assessment  Problems/Data Analysis Online Assessment | 10.0%  10.0%  7.5%  7.5% |

Details of the assessments will be given out through MyAberdeen. Assignments must be handed in before the deadlines specified.

Coursework:

Deadlines for handing in

Practical Report, 5.00pm Wed 6/3

Genetics Essay, 5.00pm Thu 21/3

Online assessments are available at the following times

Bioinformatics, opens 5.00pm Tue 27/2 – closes 5.00pm Thu 29/2

Problems/Data Analysis, opens 5.00pm Tue 26/3 – closes 5.00pm Fri 29/3

All items of course work should be submitted/completed by the time and dates specified above via MyAberdeen/Blackboard. Work appearing after this time will be deemed to be late and there will be an automatic deduction of marks. PLEASE NOTE, online assessments can only be attempted once and only between the indicated dates.

Explanation for work being submitted late must be deposited with the Year and Course Co-ordinators in writing. PLEASE NOTE, without a medical certificate, only exceptional reasons will be acceptable so that no penalty will be incurred.

Please inform your Year and Course Co-ordinators immediately if you anticipate problems with handing in your course work.

COLLECTION OF COURSEWORK ONCE IT HAS BEEN ASSESSED

The staff will endeavour to return your work within two weeks after receipt. Marks will also be posted on MyAberdeen.

**Examination**

WRITTEN EXAMINATIONS (65% of total): This will be of three hours duration and will be held at the end of the second semester in May/June. There will be 7 questions in total. You will be requested to answer 4 questions. All questions have an equal weighting and questions may be based on any part of the course.

Details regarding Time and Place will be announced well before the exam.

EXAMINATION RESULTS:

The results will be posted on MyAberdeen approximately 2 weeks after the examination. The criteria used for marking examination questions are given on the following page of the manual. Similar considerations apply to marking your other assessed written work.

A resit examination in the same format as the main examination will be provided for those students who are unsuccessful in the May/June examination.

Students are responsible for checking whether they will be required for the resit examination by regularly monitoring MyAberdeen and their email messages in the days following the written examination. The staff has ten working days to mark examination questions, so resit lists are unlikely to appear until at least 2 weeks after the written examination.

REQUIREMENTS FOR PASSING THE COURSE:

The total assessment of the course, recorded as a single CGS mark, is based on two elements of the course as follows: Continuous assessment marks contributing 35% of the total and the written examination contributing 65%. To achieve an overall pass for the course you MUST obtain a CGS score of D3 or better for the entire course.

# Class Representatives

We value students’ opinions in regard to enhancing the quality of teaching and its delivery; therefore, in conjunction with the Students’ Association we support the Class Representative system.

In the School of Medicine, Medical Sciences & Nutrition we operate a system of course representatives, who are elected from within each course. Any student registered within a course that wishes to represent a given group of students can stand for election as a class representative. You will be informed when the elections for class representative will take place.

What will it involve?

It will involve speaking to your fellow students about the course you represent. This can include any comments that they may have. You will attend a Staff-Student Liaison Committee and you should represent the views and concerns of the students within this meeting. As a representative, you will also be able to contribute to the agenda. You will then feedback to the students after this meeting with any actions that are being taken.

Training

Training for class representatives will be run by the Students Association. Training will take place within each half-session. For more information about the Class representative system visit [www.ausa.org.uk](http://www.ausa.org.uk) or email the VP Education & Employability [vped@abdn.ac.uk](mailto:vped@abdn.ac.uk) . Class representatives are also eligible to undertake the STAR (Students Taking Active Roles) Award with further information about this co-curricular award being available at: [www.abdn.ac.uk/careers](http://www.abdn.ac.uk/careers).

Problems with Coursework

If students have difficulties with any part of the course that they cannot cope with, alone they should notify the course coordinator immediately. If the problem relates to the subject matter general, advice would be to contact the member of staff who is teaching that part of the course. Students with registered disabilities should contact the medical sciences office, ([medsci@abdn.ac.uk](mailto:medsci@abdn.ac.uk)) (based in the Polwarth Building, Foresterhill) to ensure that the appropriate facilities have been made available. Otherwise, you are strongly encouraged to contact any of the following as you see appropriate:

* Course student representatives
* Course co-ordinator
* Convenor of the Medical Sciences Staff/Student Liaison Committee (Professor Gordon McEwan)
* Personal Tutor
* Medical Sciences Disabilities Co-ordinator (Dr Derryck Shewan)

All staff are based at Foresterhill and we strongly encourage the use of email or telephone the Medical Sciences Office. You may have a wasted journey travelling to Foresterhill only to find staff unavailable.

If a course has been completed and students are no longer on campus (i.e. work from second half session during the summer vacation), coursework will be kept until the end of Fresher’s Week, during the new academic year. After that point, unclaimed student work will be securely destroyed.

Course Reading List

The recommended text book for this course is:

Meneely P., Dawes Hoang R., Okeke I.N., and Heston K. (2017) Genetics – Genes, Genomes, and Evolution. (1st Edition) Oxford University Press.

ISBN: 978-0-19-871255-8

Additional reading on statistical methods:

Baldi B., and Moore D.S. (2018) The Practice of Statistics in the Life Sciences. (4th Edition) W. H. Freeman and Company.

ISBN: 978-1-319-18760-6

# Lecture Synopsis

The strong impact of genetics on almost all aspects of biological and medical science is reflected in the subject matter covered in this course. The main aim is to provide a clear, comprehensive picture of genetic principles as they apply to a wide range of biological phenomena, attempting, where possible, to provide a molecular explanation for the observed phenotypic associations. The genetic composition of populations needs to consider the nature of the forces, selection and mutation, which helps to shape them. We also focus on the role of genes in the aetiology of different disease states and recognise the separate impact of chromosomal aberrations, single gene disorders and complex genetic traits in this respect. Isolating and characterising a gene is the ultimate aim of almost all genetic studies and this will be covered using human disease genes as examples. The ordering of gene function within a pathway will introduce you to the concept of epistasis. Finally, the need to feed an ever-growing world population underlines the importance of continued research in plant genetics, particularly in relation to disease-resistance and other important traits.

**Genetic Analysis | Prof Jonathan Pettitt**

The aim of these lectures is to provide an understanding of the way a biological process can be dissected using the tools of genetic analysis. The lectures will focus upon the principals involved, rather than specific facts, employing a wide-range of examples from different genetically-tractable experimental organisms.

**Lecture 1:** **Mutations and mutant hunts**

Genetic analysis requires mutations. This lecture will examine the different classes of mutations that can be produced, and how they can be used to begin the molecular dissection of a particular biological process.

**Lecture 2:**  Complementation tests and what they can tell us

If two mutations affect the same gene, then they will “fail to complement”. This is the basis of the complementation test. This lecture will discuss the molecular basis of complementation tests, as well as situations when the test can “lie”, and the biological interpretation of such events.

**Lecture 3:** Genetic suppression and what it can tell you

Suppression of the phenotype of one mutation by another can tell us an enormous amount about the molecular basis of a gene products’ function. Such information is often invaluable in determining how a particular gene product contributes to a biological process.

**Lecture 4:** Building a pathway: epistasis

This lecture will demonstrate how genetic interactions between mutations can be used to assemble genes into pathways.

**Lecture 5 & 6:** Genetic redundancy and the limits of genetics

It is becoming increasingly clear that loss-of-function of many genes in eukaryotic genomes does not confer an obvious phenotype, at least within the laboratory. This means that some genes will be invisible to simple phenotype-based screens. However, there are tricks that can be employed to circumvent these problems.

**Mendelian Genetics | Dr Alexander Lorenz**

Genetic inheritance patterns follow particular rules, first described by Gregor Mendel in the second half of the 19th century. In the early 20th century, their validity was finally being recognized which led to the foundation of genetics as a research field within biology. Understanding the causes and consequences of what has come to be called “Mendel’s rules” or “Mendelian laws” is still very much a central research objective within genetics, and instrumental in making sense of population biology, evolutionary genetics, and pedigree analysis.

Lecture 1: Mendelian inheritance - Introducing the most widely used model organisms, their life cycles and their genetic components; and putting their genetics into the context of Mendelian “laws”.

Lecture 2: Meiosis - The mechanism behind genetics: Going into the details of chromosomal inheritance, what the molecular events behind genetic readouts are, how we got to know about these, and how model organisms were instrumental in discovering key players driving these molecular events.

**Chromosome Biology | Dr Alexander Lorenz**

Chromosome biology is an interdisciplinary field investigating genetic aspects of cellular functions as much as probing central genetic processes from a cell biology angle. The behaviour of chromosomes as “packaging units of genetic information” is the central research objective of this discipline.

These lectures will discuss the nature of chromosomes, and their dynamical behaviour in important cellular and developmental processes.

Vertebrate Developmental Genetics | Prof Alasdair MacKenzie

Lecture 1: The evolutionary conservation of vertebrate and invertebrate genes involved in body patterning.

Lecture 2: The role of gene expression in vertebrate segmentation; somites and rhombomeres.

Lecture 3: Cranio-facial formation and the neural crest; the 4th vertebrate germ layer.

Lecture 4: The genetic regulation of vertebrate limb development

**Genes, Genomes & Evolution - Bioinformatics | Prof Jonathan Pettitt**

The availability of large amounts of sequence data arising from genome sequencing projects has revolutionised genetics, but the key to these innovations has been the concurrent development of computational tools and associated databases.

These lectures and the accompanying tutorials will investigate the development and application of “bioinformatics” tools to the understanding of gene function.

Fungal Genetics | Dr Alexander Lorenz

The aim of these lectures is, (I) to survey the structure and function of genetic components in fungi, (II) to explore which fungi are excellent models to further our understanding of the molecular mechanisms behind genetics and why these models are so convenient, and (III) to look at evolutionary aspects of fungal genome diversity and dynamics especially in the context of biotechnology and fungal pathogenesis.

Medical Genetics | Dr Andreas Kolb

The general aim is to provide information on a range of genetic and epigenetic disorders and to expand their knowledge on the use of family studies and molecular analysis to provide appropriate genetic counselling.

Objectives: Students attending this course will have basic knowledge of the types of inherited disease, and the current state of our knowledge of their causes at the chromosomal or molecular level and the use of all of this information to genetic counselling.

Lecture 1: Major Groups of Genetic Disorders

Aim: To provide an overview of the role of genetics in multiple clinical disciplines.

Objectives: As a result of attending this lecture, the student should understand the breadth of clinical areas on which clinical genetics now has an impact.

Lecture 2: Localization and Characterisation of Genes

Aim: To provide an understanding of linkage analysis and its significance in pinpointing the localization of genes, their identification and further characterisation and use in risk analysis. This knowledge will provide a basis for genetic counselling for a variety of types of disorders.

Objectives: Students should understand the nature of the processes involved in gene identification and characterisation and how to use this information e.g. in the non-directive counselling process to allow the patient and family to make informed decisions relating to complex genetic situations.

Lecture 3: Mechanisms of epigenetics and epigenetic disorders

Aim: To provide an understanding of the major mechanisms of epigenetic gene regulation and their analysis.

Objectives: Students should understand the role epigenetic gene regulation plays in disease development and aging and how environmental influences can modify the cellular epigenome.

Lecture 4: Cancer Genetics

Aim: To provide an understanding of the genes involved in cancer initiation and progression.

Objectives: Students should understand the role of oncogenes, tumour suppressor genes and DNA repair defects in cancer and in inherited predisposition.

Gene Hunting and Human Genetics | Prof Martin Collinson

The general aim of these lectures is to outline the methodological approaches to finding human genes in the absence of knowledge of their structure and function.

Lecture 1: Introduction to genetic diseases and gene identification strategies, types of genetic disease, types of inheritance, linkage mapping, LOD scores, multipoint mapping.

Lecture 2: Polymorphism in human DNA and how to analyse it, RFLPs, microsatellites, SNPs and DNA arrays (chips) for rapid genotyping, genome scans, identifying genes in candidate regions using genome databases.

Lecture 3: Proving the candidacy of a gene; methods of mutation detection – large scale, based on gel electrophoresis – small scale using PCR – single-strand conformation polymorphism, heteroduplex analysis and direct DNA sequencing, dHPLC, examples: myotonic dystrophy and Huntington’s disease.

Lecture 4: The Human Genome Project. Expressed Sequence Tags and Sequence Tagged Sites, cDNA sequencing programmes, X-ray hybrid mapping, clone contigs, combining physical and genetic maps of the genome. Large - scale sequencing technology.

Population Genetics | Dr Michael Morgan

The aim of this series of lectures is to review the fundamental concepts of the Hardy-Weinberg theory as it applies to the genetic structure of populations. This provides a basis for the derivation of mathematical models describing the operation of selection in populations. Genetic polymorphisms are considered in relation to heterozygote advantage, artificial selection and natural selection in populations. In addition, methods of measuring mutation rates, and their contribution to human gene frequencies are considered.

Complex Genetic Disorders | Prof Jonathan Pettitt

The general aim of these lectures is to provide an overview of our current understanding of the genes involved in multifactorial diseases and the strategies being utilised in an effort to gain insight into the specific genes involved in the aetiology of such diseases.

Lecture 1: The role of genetics in the aetiology of complex genetic disorders; monogenic, oligogenic and polygenic inheritance of traits in relation to disease susceptibility in cancer, coronary heart disease and diabetes.

Lecture 2: The search for genes involved in complex genetic disorders – the ‘candidate’ gene approach; the selection of candidate genes based through knowledge of metabolic pathways and the pathology of the disease; genetic variation, phenotypic association and disease susceptibility.

Lecture 3: Searching for genes using the non-parametric sib-pair approach; concordance, discordance, allele identity by descent and state. Transmission/disequilibrium testing and haplotype relative risk. Genome scans using sib-pairs and microsatellites for the identification of disease susceptible regions for NIDDM, IDDM, age related macular degeneration and multiple sclerosis.

Genetic Engineering | Dr Alexander Lorenz

Genetic engineering as a technique and a concept is fairly young. In the early days, its application was hugely controversial. The general aim of these lectures is to provide a history and an overview of genetic engineering tools developed in the past decades. From the development of bacterial plasmids carrying heterologous DNA via meganuclease to CRISPR/Cas9.

University Policies

Students are asked to make themselves familiar with the information on key education policies, available [here](https://www.abdn.ac.uk/staffnet/teaching/key-education-policies-for-students-11809.php). These policies are relevant to all students and will be useful to you throughout your studies.  They contain important information and address issues such as what to do if you are absent, how to raise an appeal or a complaint and how the University will calculate your degree outcome.

These University wide education policies should be read in conjunction with this programme and/or course handbook, in which School specific policies are detailed. These policies are effective immediately, for the 2022/23 academic year. Further information can be found on the [University’s Infohub webpage](https://www.abdn.ac.uk/students/) or by visiting the Infohub.

The information included in the institutional area for 2022-23 includes the following:

* Assessment
* Feedback
* Academic Integrity
* Absence
* Student Monitoring/ Class Certificates
* Late Submission of Work
* Student Discipline
* The co-curriculum
* Student Learning Service (SLS)
* Professional and Academic Development
* Graduate Attributes
* Email Use
* MyAberdeen
* Appeals and Complaints

Where to Find the Following Information:

C6/C7- University of Aberdeen Homepage > Students > Academic Life > Monitoring and Progress > Student Monitoriung (C6 & C7)

https://www.abdn.ac.uk/students/academic-life/student-monitoring.php#panel5179

Absences- To report absences you should use the absence reporting system tool on Student Hub. Once you have successfully completed and sent the absence form you will get an email that your absence request has been accepted. The link below can be used to log onto the Student Hub Website and from there you can record any absences you may have.

[Log In - Student Hub (ahttps://www.abdn.ac.uk/studenthub/loginbdn.ac.uk)](https://www.abdn.ac.uk/studenthub/login)

Submitting an Appeal- University of Aberdeen Homepage > Students > Academic Life > Appeals and Complaints

https://www.abdn.ac.uk/students/academic-life/appeals-complaints-3380.php#panel2109

Academic Language & Skills support

For students whose first language is not English, the Language Centre offers support with Academic Writing and Communication Skills.

Academic Writing

* Responding to a writing task: Focusing on the question
* Organising your writing: within & between paragraphs
* Using sources to support your writing (including writing in your own words, and

citing & referencing conventions)

* Using academic language
* Critical Thinking
* Proofreading & Editing

Academic Communication Skills

* Developing skills for effective communication in an academic context
* Promoting critical thinking and evaluation
* Giving opportunities to develop confidence in communicating in English
* Developing interactive competence: contributing and responding to seminar discussions
* Useful vocabulary and expressions for taking part in discussions

More information and how to book a place can be found here

Medical Sciences Common Grading Scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade | Grade Point | % Mark | Category | Honours Class | Description |
| A1 | 22 | 90-100 | Excellent | First | • Outstanding ability and critical thought • Evidence of extensive reading • Superior understanding •The best performance that can be expected from a student at this level |
|  |
| A2 | 21 | 85-89 |  |
|  |
| A3 | 20 | 80-84 |  |
|  |
| A4 | 19 | 75-79 |  |
|  |
| A5 | 18 | 70-74 |  |
|  |
| B1 | 17 | 67-69 | Very Good | Upper Second | • Able to argue logically and organise answers well  • Shows a thorough grasp of concepts  • Good use of examples to illustrate points and justify arguments  • Evidence of reading and wide appreciation of subject |  |
|  |
| B2 | 16 | 64-66 |  |
|  |
| B3 | 15 | 60-63 |  |
|  |
| C1 | 14 | 57-59 | Good | Lower Second | • Repetition of lecture notes without evidence of further appreciation of subject • Lacking illustrative examples and originality • Basic level of understanding |  |
|  |
| C2 | 13 | 54-56 |  |
|  |
| C3 | 12 | 50-53 |  |
|  |
| D1 | 11 | 47-49 | Pass | Third | • Limited ability to argue logically and organise answers • Failure to develop or illustrate points • The minimum level of performance required for a student to be awarded a pass |  |
|  |
| D2 | 10 | 44-46 |  |
|  |
| D3 | 9 | 40-43 |  |
|  |
| E1 | 8 | 37-39 | Fail | Fail | • Weak presentation • Tendency to irrelevance • Some attempt at an answer but seriously lacking in content and/or ability to organise thoughts |  |
|  |
| E2 | 7 | 34-36 |  |
|  |
| E3 | 6 | 30-33 |  |
|  |
| F1 | 5 | 26-29 | Clear Fail | Not used for Honours | • Contains major errors or misconceptions • Poor presentation |  |
|  |
| F2 | 4 | 21-25 |  |
|  |
| F3 | 3 | 16-20 |  |
|  |
| G1 | 2 | 11-15 | Clear Fail/Abysmal |  | • Token or no submission |  |
|  |
| G2 | 1 | 1-10 |  |
|  |
| G3 | 0 | 0 |  |
|  |

GN3502 Course Timetable: 2023-2024

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Time | Place | Subject | Session | Staff |
| Week 26 | | | | | |
| Mon 22 Jan | 14:00-15:00 | BMP LT | Introduction to GN3502 | Lecture | AL |
| Tue 23 Jan | 10:00-11:00 | BMP LT | Genetic Analysis I | Lecture | JP |
| 12:00-13:00 | 2:054 | Genetic Analysis II | Lecture | JP |
| 14:00-15:00 | 2:054 | Genetic Analysis III | Lecture | JP |
| Wed 24 Jan | 10:00-11:00 | Taylor A21 | Genetic Analysis IV | Lecture | JP |
| Thu 25 Jan |  |  |  |  |  |
| Fri 26 Jan |  |  |  |  |  |
| Week 27 | | | | | |
| Mon 29 Jan |  |  |  |  |  |
| Tue 30 Jan | 10:00-11:00 | BMP LT | Genetic Analysis V | Lecture | JP |
| 12:00-13:00 | 2:054 | Genetic Analysis VI - PRS Session | Workshop | JP |
| Wed 31 Jan |  |  |  |  |  |
| Thu 1 Feb |  |  |  |  |  |
| Fri 2 Feb | 14:00-16:00 | BMP LT | Mendelian Genetics | Lecture | AL |
| Week 28 | | | | | |
| Mon 5 Feb | 14:00-16:00 | STH 1.007 | Genetics Practical 1 (Group 1) | Practical | AL |
| 16:00-18:00 | STH 1.007 | Genetics Practical 1 (Group 2) | Practical | AL |
| Tue 6 Feb |  |  |  |  |  |
| Wed 7 Feb |  |  |  |  |  |
| Thu 8 Feb |  |  |  |  |  |
| Fri 9 Feb | 14:00-16:00 | BMP LT | Chromosome Biology | Lecture | AL |
| Week 29 | | | | | |
| Mon 12 Feb | 14:00-16:00 | STH 2.001 | Genetics Practical 2 (Group 1) | Practical | AL |
| 16:00-18:00 | STH 2.001 | Genetics Practical 2 (Group 2) | Practical | AL |
| Tue 13 Feb |  |  |  |  |  |
| Wed 14 Feb | 09:00-12:00 | STH 1.007 | Genetics Practical 3 (Groups 1 & 2) | Practical | AL |
| Thu 15 Feb |  |  |  |  |  |
| Fri 16 Feb | 15:00-17:00 | BMP LT | Fungal Genetics | Lecture | AL |
| Week 30 | | | | | |
| Mon 19 Feb | 14:00-16:00 | BMP LT | Pedigree Analysis Workshop | Tutorial | AL |
| Tue 20 Feb |  |  |  |  |  |
| Wed 21 Feb | 10:00-12:00 | 2:054 | Gene Hunting 1 & 2 | Lecture | JMC |
| Thu 22 Feb |  |  |  |  |  |
| Fri 23 Feb | 14:00-16:00 | BMP LT | Gene Hunting 3 & 4 | Lecture | JMC |
| Week 31 | | | | | |
| Mon 26 Feb |  |  |  |  |  |
| Tue 27 Feb | 10:00-11:00 | BMP LT | Genes, Genomes & Evolution - Bioinformatics I | Lecture | JP |
| 12:00-13:00 | 2:054 | Genes, Genomes & Evolution - Bioinformatics II | Lecture | JP |
| 14:00-17:00 | STH 0.004 | Bioinformatics Workshop, Test opens | Tutorial | JP |
| Wed 28 Feb |  |  |  |  |  |
| Thu 29 Feb | 17:00 |  | Bioinformatics Test closes |  |  |
| Fri 1 Mar |  |  |  |  |  |
| Week 32 | | | | | |
| Mon 4 Mar | 14:00-16:00 | BMP LT | Population Genetics | Lecture | MM |
| Tue 5 Mar | 14:00-15:00 | 2:054 | Population Genetics Workshop | Tutorial | MM |
| Wed 6 Mar | 17:00 |  | DEADLINE: Practical Report |  |  |
| Thu 7 Mar |  |  |  |  |  |
| Fri 8 Mar | 15:00-17:00 | BMP LT | Vertebrate Developmental Genetics 1 & 2 | Lecture | AMacK |
| Week 33 | | | | | |
| Mon 11 Mar | 14:00-16:00 | BMP LT | Vertebrate Developmental Genetics 3 & 4 | Lecture | AMacK |
| Tue 12 Mar |  |  |  |  |  |
| Wed 13 Mar |  |  |  |  |  |
| Thu 14 Mar |  |  |  |  |  |
| Fri 15 Mar | 14:00-16:00 | BMP LT | Complex Genetic Disorders | Lecture | JP |
| Week 34 | | | | | |
| Mon 18 Mar | 14:00-16:00 | BMP LT | Medical Genetics 1 & 2 | Lecture | AK |
| Tue 19 Mar | 10:00-11:00 | BMP LT | What the H2 is meant by Heritability? | Tutorial | JP |
| Wed 20 Mar | 09:00-11:00 | 2:054 | Medical Genetics 3 & 4 | Lecture | AK |
| Thu 21 Mar | 17:00 |  | DEADLINE: Essay |  |  |
| Fri 22 Mar |  |  |  |  |  |
| Week 35 | | | | | |
| Mon 25 Mar | 14:00-16:00 | BMP LT | Genetic Engineering | Lecture | AL |
| Tue 26 Mar | 10:00-12:00 | 2:054 | Practical – Wrap-up & Exam Preparation | Tutorial | AL |
| 17:00 |  | Genetic Problems - Test opens |  |  |
| Wed 27 Mar |  |  |  |  |  |
| Thu 28 Mar |  |  |  |  |  |
| Fri 29 Mar | 17:00 |  | Genetic Problems - Test closes |  |  |

Teaching Room 2:054 is in the Polwarth Building, Foresterhill.

BMP LT (Bio-Medical Physics Lecture Theatre, Teaching Rooms C7/C8) is in the Medical Physics Building, Foresterhill.

Taylor A21 is in the Taylor Building Block A, Old Aberdeen.

STH 0.004, 1.007, and 2.001 are in the Science Teaching Hub, Old Aberdeen.

Staff

|  |
| --- |
| Professor Martin Collinson (JMC), [m.collinson@abdn.ac.uk](mailto:m.collinson@abdn.ac.uk) |
| Dr Andreas Kolb (AK), [a.kolb@abdn.ac.uk](mailto:a.kolb@abdn.ac.uk) |
| Dr Alexander Lorenz (AL), [a.lorenz@abdn.ac.uk](mailto:a.lorenz@abdn.ac.uk) |
| Professor Alasdair MacKenzie (AMacK), [alasdair.mackenzie@abdn.ac.uk](mailto:alasdair.mackenzie@abdn.ac.uk) |
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Campus Maps - Foresterhill



Polwarth Floor Plans

Diagram, schematic

Description automatically generated

Diagram

Description automatically generated

Diagram

Description automatically generated