BIOL3120

Human Genetics and Evolutionary Medicine

Session 1, In person-scheduled-weekday, North Ryde 2023

School of Natural Sciences

Contents

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General Information

Unit convenor and teaching staff
Oliver Griffith
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Credit points
10

Prerequisites
130cp at 1000 level or above including BIOL2110 or BIOL206(P)

Corequisites

Co-badged status
BIOX3120 MOLS8001

Unit description
This unit deals with the molecular, cellular and population basis of the genetics of human beings in relation to disease and evolutionary medicine. Topics include: genetics, genomics, disease gene discovery, evolutionary medicine and the social and ethical implications of studies in human genetics. Emphasis is placed upon the enormous impact which recent molecular advances have had upon the subject, as well as techniques of genetic analysis. Comparisons with the genetics of other vertebrates are made wherever appropriate.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Solve problems in human genetics using appropriate analytical methods and a variety of up to date resources

ULO2: Interpret and demonstrate understanding of the primary scientific literature

ULO3: Explain the importance of new techniques in human genetics for understanding human disease

ULO4: Explain the principles of evolutionary biology and their role in human health and disease

ULO5: Utlise basic bioinformatic skills, including handling of genetic sequence data

ULO6: Understand genetics and its basis in human disease

General Assessment Information

Requirements to Pass this Unit

To pass this unit you must ahieve a total mark equal to or greater than 50%.

There are no hurdle assessments.

Late Assessment Submission Penalty

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is 11:55 pm. A 1-hour grace period will be provided to students who experience a technical concern. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for Special Consideration.

Assessments where Late Submissions will be accepted

AT1 Problem Sets: NO - special consideration required

AT2 Literature Review: YES (standard late penalties apply)

AT3 Final Exam: NO - special consideration required

Special Consideration

The Special Consideration Policy aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Assessment Tasks

Name	Weighting	Hurdle	Due
Problem sets	25%	No	Week 3-12
Literature review	25%	No	Week 8
Examination	50%	No	Formal Exam Period

Problem sets

Assessment Type [1]: Problem set

Indicative Time on Task [2]: 25 hours
Due: **Week 3-12**
Weighting: **25%**

Ongoing problem sets for practicals throughout the semester

On successful completion you will be able to:
- Solve problems in human genetics using appropriate analytical methods and a variety of up to date resources
- Interpret and demonstrate understanding of the primary scientific literature
- Explain the principles of evolutionary biology and their role in human health and disease
- Utlise basic bioinformatic skills, including handling of genetic sequence data
- Understand genetics and its basis in human disease

Literature review

Assessment Type [1]: Literature review
Indicative Time on Task [2]: 25 hours
Due: **Week 8**
Weighting: **25%**

A written literature review of the methodology of a genomic technique

On successful completion you will be able to:
- Interpret and demonstrate understanding of the primary scientific literature
- Explain the importance of new techniques in human genetics for understanding human disease
- Understand genetics and its basis in human disease

Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 32 hours
Due: **Formal Exam Period**
Weighting: **50%**

Formal examination covering all content of unit

On successful completion you will be able to:

- Solve problems in human genetics using appropriate analytical methods and a variety of up to date resources
- Explain the importance of new techniques in human genetics for understanding human disease
- Explain the principles of evolutionary biology and their role in human health and disease
- Utlise basic bioinformatic skills, including handling of genetic sequence data
- Understand genetics and its basis in human disease

[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Some notes on unit delivery

Practical classes will not run until week 3.

We will communicate with you via your university email or through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to oliver.griffith@mq.edu.au

For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: https://www.mq.edu.au/about/coronavirus-faqs. Remember to check this page regularly in case the information and requirements change during semester. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy

- Assessment Policy

- Fitness to Practice Procedure

- Assessment Procedure

- Complaints Resolution Procedure for Students and Members of the Public

- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops

- Chat with a WriteWISE peer writing leader

- Access StudyWISE

- Upload an assignment to Studiosity

- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.