



MEDI2200

Human Cell and Molecular Biology

Session 2, Weekday attendance, North Ryde 2021

Medicine, Health and Human Sciences Faculty level units

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	5
<u>Unit Schedule</u>	6
<u>Policies and Procedures</u>	7
<u>Changes since First Published</u>	9

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Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

General Information

Unit convenor and teaching staff

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Credit points

10

Prerequisites

Admission to BClinSc and CBMS104 or BMOL1001

Corequisites

Co-badged status

Unit description

This unit introduces concepts which are core to biochemistry, cell and molecular biology. You will learn about the nature of chemical reactions that occur within the human body and explore the functions and the relationships between the four main biomolecules (nucleic acids, proteins, carbohydrates and lipids). You will gain an understanding of the fundamental structure of the cell and how this relates to function. You will also examine the basic principles of molecular biology and how cellular processes are regulated.

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: Describe the major features of cell structure and organisation.

ULO2: Examine the molecular processes controlling cell structure and function

ULO3: Describe the role of DNA replication and repair in producing genetic variation

ULO4: Apply biochemical and genetic knowledge in a practical setting

General Assessment Information

Grade descriptors and other information concerning grading are contained in the *Macquarie University Assessment Policy*, which is available at: <https://policies.mq.edu.au/>

Further details for each assessment task will be available on iLearn.

All final grades in the Bachelor of Clinical Science are determined by a grading committee and are not the sole responsibility of the Unit Convenor.

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes, attempt all assessment tasks, meet any ungraded requirements including professionalism, and achieve an standard numerical grade of 50 or better.

Student Professionalism

In the Faculty of Medicine, Health and Human Sciences, professionalism is a key capability embedded in all our courses. As part of developing professionalism, students are expected to attend all small group interactive sessions including tutorials, as well as clinical- and laboratory-based practical sessions.

Students are required to attend a minimum of 80% of all small group interactive sessions. Students that do not meet this requirement may be deemed unable to meet expectations regarding professionalism and may be referred for disciplinary action (which may include exclusion from assessments and unit failure).

Similarly, as part of developing professionalism, students are expected to submit all work by the due date. Applications for assessment task extensions must be supported by appropriate evidence and submitted via www.ask.mq.edu.au. For further details please refer to the Special Consideration Policy available at <https://students.mq.edu.au/study/my-study-program/special-consideration>.

Late Submission

Late submissions will receive a 5% per day penalty including weekends and public holidays. If you submit the assessment task 10 days or more beyond the due date, without an approved extension, you will be awarded a maximum of 50% of the overall assessment marks.

Assessment Tasks

Name	Weighting	Hurdle	Due
Formative Quiz	0%	No	Week 3
Mid-session Exam	30%	No	Week 7
Practical Assignment	30%	No	Week 10
Final Exam	40%	No	Week 14-16 (Exam Period)

Formative Quiz

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 4 hours

Due: **Week 3**

Weighting: **0%**

Formative quiz delivered online assessing content delivered up to this point.

On successful completion you will be able to:

- Describe the major features of cell structure and organisation.
- Examine the molecular processes controlling cell structure and function
- Describe the role of DNA replication and repair in producing genetic variation

Mid-session Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 20 hours

Due: **Week 7**

Weighting: **30%**

Formal written examination assessing all unit content delivered to this point and will be composed of a mixture of multiple-choice and short answer questions

On successful completion you will be able to:

- Describe the major features of cell structure and organisation.
- Examine the molecular processes controlling cell structure and function
- Describe the role of DNA replication and repair in producing genetic variation
- Apply biochemical and genetic knowledge in a practical setting

Practical Assignment

Assessment Type ¹: Problem set

Indicative Time on Task ²: 15 hours

Due: **Week 10**

Weighting: **30%**

Problem-based assignment assessing content delivered in the practical modules.

On successful completion you will be able to:

- Examine the molecular processes controlling cell structure and function
- Describe the role of DNA replication and repair in producing genetic variation
- Apply biochemical and genetic knowledge in a practical setting

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 30 hours

Due: **Week 14-16 (Exam Period)**

Weighting: **40%**

Formal written examination assessing content delivered across the unit. Examination will include a combination of question types: MCQ and short answer questions. This task is completed under examination conditions during the University examination period.

On successful completion you will be able to:

- Describe the major features of cell structure and organisation.
- Examine the molecular processes controlling cell structure and function
- Describe the role of DNA replication and repair in producing genetic variation
- Apply biochemical and genetic knowledge in a practical setting

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

This unit involves essential on-campus learning activities which will be delivered in accordance with a COVID Safe plan. You are expected to attend on-campus for these activities unless the Public Health Orders and/or University advice changes, you have any symptoms of COVID or you have been identified as a contact of an individual with COVID. Please refer to iLearn for further information.

Textbooks

Lodish *et al.* Molecular Cell Biology (9th edition.) is the recommended text. Limited copies are available through the library.

Technology and equipment

MQ is a BYOD environment where students are encouraged to bring their personally owned devices to class and to use these devices to access information and study. To study optimally when off campus, you will need to have access to a reliable internet connection to retrieve unit information and engage with online resources.

Consultation with staff

Staff will be available for individual consultations, please see the iLearn site for information on staff availability for consultation.

Teaching and Learning Strategy

This unit will have 2 hours of lecture content and 2 hours of small group teaching each week.

- Lectures will cover topics and concepts that encompass the biomedical sciences. Academic researchers will deliver lectures via pre-recorded videos.
- Tutorial classes are held on campus and allow students to apply practical and/or conceptual elements. Students are expected to engage with lecture material prior to attending.
- Practical content will be delivered via online modules that will introduce students to theoretical aspects of molecular biology research techniques.

iLearn

This unit's iLearn site will provide weekly resources for students, including:

- lecture and tutorial content
- compulsory online modules
- videos and other teaching resources
- assessment information

Unit Schedule

Week	Lecture Topic	Tutorial	Online practical	Assessment
1	Biomolecules	Introduction to unit and expectations	Practical 1: Lab Basics	
2	Cell Organisation	Cell organisation	Practical 1: Lab Basics	

3	Proteins	Protein structure and function	Practical 1: Lab Basics	Formative Quiz during tutorial
4	DNA and Genes	DNA replication	Practical 2: DNA analysis	
5	Gene expression	Transcription and Translation	Practical 2: DNA analysis	
6	The Cell Cycle	Mitosis and Meiosis	Practical 2: DNA analysis	
7	Genetic Variation	No tutorial	Practical 3: Protein analysis	Midsession Exam Thursday 9 th Sept (30%)
RECESS				
8	Trafficking and Transport	Intracellular trafficking and membrane transport	Practical 3: Protein analysis	
9	Cell structure and interactions	Cell networks and neighbours	Practical 3: Protein analysis	
10	No lecture	No tutorial		Practical Assignment Friday 15 th Oct (30%)
11	Cell Signalling	Signalling pathways		
12	Glucose Oxidation	Glucose pathways		
13	No lecture Independent learning: Consolidation and Review	No tutorial Independent learning: Consolidation and Review		
14-16				Final Exam during exam period (40%)

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](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](#)

- [Grade Appeal Policy](#)
- [Complaint Management 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) (<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) (<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

Student Support

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

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [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

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

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.

Changes since First Published

Date	Description
15/07/2021	Additional delivery and resources information has been provided