



BMSC12015 Cell and Tissue Biology

Term 2 - 2024

Profile information current as at 05/09/2024 02:39 pm

All details in this unit profile for BMSC12015 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

In this unit, you will advance your knowledge of the structure of cells and how they integrate into specific tissues or organs within our body systems. You will learn how cells utilise key signalling and molecular processes to proliferate and differentiate into tissues with physiological and functional properties. You will also learn how cells communicate with neighbouring cells and the extracellular environment, and the importance of this in maintaining homeostasis. You will gain knowledge in cellular pathophysiology and understand key cellular processes that are disrupted during the development of particular diseases. Finally you will have the opportunity to apply the knowledge gained in a practical environment during laboratory practical sessions.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-requisite BMSC12012 Molecular Cell Biology

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 2 - 2024

- Bundaberg
- Mixed Mode
- Rockhampton

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Case Study**

Weighting: 20%

2. **Laboratory/Practical**

Weighting: Pass/Fail

3. **Practical Assessment**

Weighting: 30%

4. **Examination**

Weighting: 50%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Student Unit Evaluation

Feedback

Some students had difficulty in unpacking requirements for the case study.

Recommendation

Review the assessment task description, criteria, and rubric to ensure clarity and provide some exemplars of previous student submissions. Continue to offer a tutorial on each assessment.

Feedback from Student Unit Evaluation

Feedback

Some students found the volume of content overwhelming in each lesson.

Recommendation

Consider sectioning lecture content, that covers multiple body systems, into separate weekly lectures.

Feedback from Student Unit Evaluation

Feedback

Some student wanted additional video resources to further support their understanding of certain pathological conditions.

Recommendation

Consider additional video resources pertaining to pathologies discussed in weekly lectures.

Unit Learning Outcomes

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

1. Evaluate the cellular and molecular processes that lead to coordinated and regulated activity in tissues of the body
2. Describe how specific cell structures achieve their respective cellular functions
3. Explain how changes at the cellular level can influence host tissue physiology
4. Explain the basic role of the fundamental signalling pathways as effectors in maintaining homeostasis
5. Demonstrate sound scientific reasoning and application in experimental design and research.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Case Study - 20%	•	•	•	•	
2 - Laboratory/Practical - 0%					•
3 - Practical Assessment - 30%	•				•
4 - Examination - 50%	•	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Communication	•	•	•	•	
2 - Problem Solving					•
3 - Critical Thinking	•	•	•	•	•
4 - Information Literacy					
5 - Team Work					
6 - Information Technology Competence					•
7 - Cross Cultural Competence					
8 - Ethical practice					
9 - Social Innovation					
10 - Aboriginal and Torres Strait Islander Cultures					

Textbooks and Resources

Textbooks

BMSC12015

Prescribed

Molecular Pathology: The Molecular Basis of Human Disease

Edition: 2nd (2017)

Authors: Coleman, W. & Tsongalis, G.

ISBN: 9780128027615

Binding: Hardcover

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Zoom

Referencing Style

All submissions for this unit must use the referencing styles below:

- [Harvard \(author-date\)](#)
- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Maddie Higgins Unit Coordinator

m.j.higgins@cqu.edu.au

Schedule

Week 1 - 08 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Molecular pathology: apoptosis and inflammation	1 - 5	

Week 2 - 15 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Epigenetics and the molecular diagnosis of human disease	6 - 13, 30, 31, and 32	

Week 3 - 22 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Epithelial tissue: structure, function and types		

Week 4 - 29 Jul 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of the cardiovascular system including molecular basis of disease	14	

Week 5 - 05 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of blood including molecular basis of disease	15, 16, and 17	

Vacation Week - 12 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 19 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of the liver and kidneys including molecular basis of disease	20 and 24	

Week 7 - 26 Aug 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of the exocrine and endocrine system including molecular basis of disease	21 and 22	Written Assessment Due: Week 7 Friday (30 Aug 2024) 5:00 pm AEST

Week 8 - 02 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of the prostate and breast including molecular basis of disease	25 and 26	

Week 9 - 09 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of skin including molecular basis of disease	27	

Week 10 - 16 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of the musculoskeletal system including molecular basis of disease	28	

Week 11 - 23 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cellular function of the nervous system including molecular basis of disease	29	Laboratory Report Due: Week 11 Friday (27 Sept 2024) 5:00 pm AEST

Week 12 - 30 Sep 2024

Module/Topic	Chapter	Events and Submissions/Topic
Revision week		

Review/Exam Week - 07 Oct 2024

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 14 Oct 2024

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

Your Unit Coordinator for BMSC12015 Cell and Tissue Biology is Maddie Higgins. You can contact me using the forum on the unit Moodle page, alternatively by email (m.j.higgins@cqu.edu.au), or phone on (07) 4150 7017. The forum for this unit is regularly monitored and you can expect a response within 24 hours of posting your question.

Each week you will be expected to complete:

- 2-hour lecture (face to face or online)
- 1-hour tutorial (face to face or online)
- 3 - 5 hours of self-directed study
- 3 - 5 hours of assessment preparation

Online sessions will be facilitated via Zoom with links provided on the unit Moodle page. Recordings of lectures and tutorials will be made available on the unit Moodle page.

This unit includes a Compulsory Residential School (refer to Assessment 2), and your attendance is required to pass the unit. You will also be assessed on the completion of your Laboratory Report (refer to Assessment 3) which will be based on the practical's completed during the residential school.

Assessment Tasks

1 Written Assessment

Assessment Type

Case Study

Task Description

You will be presented with a clinical case study. This assessment will require a detailed discussion of the cellular and molecular processes outlined in the assessment task on the unit Moodle page. You will need to discuss how these cellular and molecular processes are disrupted in the specific condition(s) and critically evaluate the scientific literature to validate your argument.

Assessment Due Date

Week 7 Friday (30 Aug 2024) 5:00 pm AEST

Return Date to Students

Week 9 Friday (13 Sept 2024)

Weighting

20%

Minimum mark or grade

50%

Assessment Criteria

- Title
- Introduction (background and direction of the selected case study)
- Explanation of the normal cellular and molecular processes that lead to coordinated and regulated activity of cells and tissues within the body system
- Critical evaluation of the scientific literature to discuss how the condition(s) impact normal regulatory processes and influence host tissue physiology
- Explain the role of signalling pathways in maintaining homeostasis
- Conclusion summarising the key points of the discussion relevant to the case study
- Reference list of resources must be included as well as in-text citations
- Professional presentation, adherence to formatting, academic style requirements and word count

Generative AI

In developing your assignment, you should consult peer-reviewed journal articles and referenced textbooks. Extensive use of non-peer-reviewed sources of information is strongly discouraged. Students are permitted to use Generative AI for the assessment in the following ways:

- Developing literature search strategies
- Guidance on developing arguments
- Assistance in formatting and grammar

If Generative AI is used in any way, it must be cited as per the CQU Guidelines (Academic Learning Centre). The following statement must be completed and included on the front page of the uploaded assessment:

"I have used (insert technology) to (insert how you used this) in accordance with the requirements of this unit. The reason I used this was to (explain why you used it). The details of how I used it as (insert how). I hereby declare that the submission is an appropriate representation of my individual skills and abilities to meet the requirements of the task/s."

As per academic writing requirements and assessment criteria; citations of information should be of the primary source (i.e statistics returned by AI must be fact-checked and referenced from their original source as well as the AI source). Failure to cite primary sources as well as AI sources could be considered breach of academic integrity. Your use of Generative AI must be clearly outlined in an appendix including the prompt used and Generative AI response. Failure to include an appendix may result in academic integrity investigation.

Please refer to the Assessment tab on the unit Moodle page for a full marking rubric.

Referencing Style

- [Harvard \(author-date\)](#)
- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

Online

Learning Outcomes Assessed

- Evaluate the cellular and molecular processes that lead to coordinated and regulated activity in tissues of the body
- Describe how specific cell structures achieve their respective cellular functions
- Explain how changes at the cellular level can influence host tissue physiology
- Explain the basic role of the fundamental signalling pathways as effectors in maintaining homeostasis

2 Laboratory/Practical

Assessment Type

Laboratory/Practical

Task Description

During the Residential School, you will be assessed on your ability to work safely and professionally in a laboratory environment through observation and your ability to complete written and/or verbal tasks to demonstrate sound scientific reasoning and application in experimental design and research.

Assessment Due Date

Return Date to Students

Weighting

Pass/Fail

Assessment Criteria

The Residential School is compulsory, and your attendance is required to pass the unit. You will also be assessed safe and professional conduct in the laboratory, demonstration of experimental design and research, completion of your laboratory workbook and completion of your Laboratory Report (refer to Assessment 3).

Referencing Style

- [Harvard \(author-date\)](#)
- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

No submission method provided.

Learning Outcomes Assessed

- Demonstrate sound scientific reasoning and application in experimental design and research.

3 Laboratory Report

Assessment Type

Practical Assessment

Task Description

During the Residential School you will be required to perform experimental protocols. You will be expected to complete a Laboratory Report and perform experimental calculations, report experimental results, and answer questions provided. The Laboratory Report must be clearly labelled with your name and student number. On completion, the Laboratory Report must be uploaded onto the unit Moodle page by the due date.

Assessment Due Date

Week 11 Friday (27 Sept 2024) 5:00 pm AEST

Return Date to Students

Review/Exam Week Friday (11 Oct 2024)

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

- Abstract
- Introduction
- Methods
- Results
- Discussion and conclusion
- Limitations & future direction
- Reference list of resources must be included as well as in-text citations
- Professional presentation, adherence to formatting, academic style requirements and word count.

Generative AI

In developing your assignment, you should consult peer-reviewed journal articles and referenced textbooks. Extensive use of non-peer-reviewed sources of information is strongly discouraged. Students are permitted to use Generative AI for the assessment in the following ways:

- Developing literature search strategies
- Guidance on developing arguments
- Assistance in formatting and grammar

If Generative AI is used in any way, it must be cited as per the CQU Guidelines (Academic Learning Centre). The following statement must be completed and included on the front page of the uploaded assessment:

"I have used (insert technology) to (insert how you used this) in accordance with the requirements of this unit. The reason I used this was to (explain why you used it). The details of how I used it as (insert how). I hereby declare that the submission is an appropriate representation of my individual skills and abilities to meet the requirements of the task/s."

As per academic writing requirements and assessment criteria; citations of information should be of the primary source (i.e statistics returned by AI must be fact-checked and referenced from their original source as well as the AI source). Failure to cite primary sources as well as AI sources could be considered breach of academic integrity. Your use of Generative AI must be clearly outlined in an appendix including the prompt used and Generative AI response. Failure to include an appendix may result in academic integrity investigation.

Please refer to the Assessment tab on the unit Moodle page for a full marking rubric.

Referencing Style

- [Harvard \(author-date\)](#)
- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

Online

Learning Outcomes Assessed

- Evaluate the cellular and molecular processes that lead to coordinated and regulated activity in tissues of the

- body
- Demonstrate sound scientific reasoning and application in experimental design and research.

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

50%

Length

180 minutes

Exam Conditions

Closed Book.

Materials

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem