



LMED28002 Haematopathology 1

Term 1 - 2023

Profile information current as at 20/04/2024 11:58 am

All details in this unit profile for LMED28002 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

On completion of this unit, you will be able to evaluate the evidence base for haematological tests used in the diagnosis and monitoring of diseases in the major organ systems of the body. Problem-solving and decision making skills will be developed through the use of authentic case studies. Skill development in instrument calibration, best practice measurement, interpretation of test results and test quality control monitoring will occur through practical exercises. You will be required to attend a compulsory residential school on the Rockhampton campus to promote the development of unit learning outcomes. The residential school may be scheduled outside of the term of offering of the unit.

Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisite Enrolment in Master of Laboratory Medicine.

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 1 - 2023

- Melbourne
- 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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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 Postgraduate 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. **Written Assessment**

Weighting: 20%

2. **Written Assessment**

Weighting: 30%

3. **Laboratory/Practical**

Weighting: Pass/Fail

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](#).

Unit Learning Outcomes

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

1. Distinguish benign from malignant haematological disorders based on numerical, cytogenetic and morphological changes in the cells
2. Critique the detection and monitoring of blood diseases using laboratory tests appropriate to the patient's clinical condition
3. Evaluate disorders of haemostasis and the use of anticoagulant therapies
4. Analyse results of haematological tests and provide provisional and differential diagnoses with suggested further testing to support and confirm the diagnosis
5. Perform core haematology and haemostasis tests including quality control procedures.

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 - Knowledge	○	○	○	○	○
2 - Communication	○	○	○	○	○
3 - Cognitive, technical and creative skills	○	○	○	○	○
4 - Research					
5 - Self-management					
6 - Ethical and Professional Responsibility					○
7 - Leadership					
8 - Aboriginal and Torres Strait Islander Cultures					

Textbooks and Resources

Textbooks

LMED28002

Prescribed

CLINICAL HAEMATOLOGY ATLAS

Edition: 6th (2021)

Authors: Jacqueline H. Carr

Elsevier

St Louis , Missouri , United States of America

ISBN: 9780323711920

Binding: Spiral

LMED28002

Prescribed

RODAK'S HAEMATOLOGY, CLINICAL PRINCIPLES AND APPLICATIONS

Edition: 6th (2019)

Authors: Elaine Keohane, Catherine Otto, Jeanine Walenga

Elsevier

St Louis , Missouri , United States of America

ISBN: 9780323530453

Binding: Hardcover

Additional Textbook Information

Textbooks can be accessed online at the CQUniversity Library website. If you prefer your own copy, you can purchase either paper or eBook versions at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[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 (both microphone and webcam capability)
- WBC Counter App on mobile device
- BM Counter App on mobile device

Referencing Style

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

- [Harvard \(author-date\)](#)
- [Vancouver](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Jacqui Dennis Unit Coordinator

j.dennis@cqu.edu.au

Schedule

Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Haematopoiesis, 2. Red cells, Iron and Haemoglobin	Rodak's: Ch 1, 4-8, Clinical Hematology Atlas: Ch 1-4,	

Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Anaemia: Microcytic, Macrocytic, Normocytic and Haemolytic 2. Thalassaemia and Haemoglobinopathies	Rodak's: Ch 16-18, 24-25 Clinical Hematology Atlas: Ch 10-13	

Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Haemolytic Anaemia: 3 parts 2. FBE Parameters and Analysis	Rodak's: Ch 20-23, 12-13 Clinical Hematology Atlas: Ch 10-13	

Week 4 - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. White cells structure, function, differential count. 2. Platelet structure and function	Rodak's: Ch 9-10, 37, 38 Clinical Hematology Atlas: Ch 4-9	Clinical Case Study Assessment Part A : Due: Friday 31/3/23 11:45pm AEST

Week 5 - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Haemostasis: 2. Laboratory Testing and Anticoagulants	Rodak's: Ch 35, 36, 41-42	

Vacation Week - 10 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 17 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Automation and the Laboratory 2. Diagnostic and Quality control	Rodak's: Ch 1 -2, 11-13, 41-42	

Week 7 - 24 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Benign White cell disorders 2. Haem Malignancy: Development, Genetics, Nomenclature.	Rodak's: Ch 26- 27, 28-30 Clinical Hematology Atlas: Ch 5-9,14	

Week 8 - 01 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Myelodysplastic Syndromes 2. Myeloproliferative Neoplasms	Rodak's: Ch 32-33 Clinical Hematology Atlas: Ch 17-18	Clinical Case study Assessment: Part B: Due: Friday 5/5/23 11:55 pm AEST Clinical Case Studies Due: Week 8 Friday (5 May 2023) 11:45 pm AEST

Week 9 - 08 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Myeloid Leukaemia	Rodak's: Ch 27, 31 Clinical Hematology Atlas: Ch 15	

Week 10 - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Lymphoid Leukaemia 2. Flow Cytometry	Rodak's: Ch 27- 31, 34 Clinical Hematology Atlas: Ch 16,19	

Week 11 - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Malaria 2. Morphology	Rodak's: Ch 22 Clinical Hematology Atlas: Ch 21	

Week 12 - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Revision week		

Review/Exam Week - 05 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

Your unit coordinator for LMED28002 Haematopathology 1 is Jacqui Dennis.
You can contact Jacqui via the following means:

- The forum on the unit's Moodle site. The forum for this unit is continuously monitored and you can expect a response within one (1) business day of posting your question;
- Or through email (j.dennis@cqu.edu.au)

This unit will provide you with a good understanding of the theoretical basis of Haematology with an understanding of laboratory techniques and how this is applied to diagnostic and clinical interpretation.

Lectures and tutorials will be delivered each week at the Melbourne campus, and students who are enrolled in either mixed mode or at the Rockhampton campus will be able to join these classes via Zoom. These lectures and tutorials will also be recorded for the benefit of those students who are unable to attend the live lectures and tutorials.

During the tutorials, you will either work through a discussion of a relevant topic along with case studies or you will join an online blood film morphology tutorial.

You will get the most benefit from the tutorials if you watch/attend the weekly lectures beforehand and complete all related readings.

You are strongly encouraged to participate in tutorials, as studies have shown that students who attend the tutorials and participate in discussions have higher rates of success (Karnik et al., 2020). Weekly revision quizzes are also provided to reinforce the knowledge you have gained from the lectures and to support your learning experience in this unit.

You will be provided an opportunity to explore how to apply the knowledge learnt in lecture material in a compulsory residential school (exact dates to be advised). This residential school is planned to take place outside of the standard teaching term and students will be advised of the dates as organised through the timetabling team in Term 3.

The residential school will allow you to apply some of the techniques you have learnt through out the unit and gain a deeper understanding of the relevant theory which underpins the techniques. You will also gain a better clinical understanding of the interpretation of the techniques.

As per Australian educational standards, you are expected to commit 150 hours of engagement to your study of this unit. This is broken down as:

- 2 - 3 hours per week attending or watching recorded lectures and revising the content through study notes
- 3 - 4 hours per week completing the weekly readings, case studies and weekly revision quizzes on the unit's Moodle site.
- 1 - 2 hours per week attending the weekly tutorial and contributing to discussions and revising the content provided.
- 3 - 4 hours per week preparing your assessments or studying for your exams

Karnik, A., Kishore, P., & Meraj, M. (2020). Examining the linkage between class attendance at university and academic performance in an International Branch Campus setting. *Research in Comparative and International Education*, 15(4), 371-390. <https://doi.org/10.1177/1745499920958855>

Assessment Tasks

1 Clinical Case Studies

Assessment Type
Written Assessment

Task Description

You will be provided with clinical cases that contain laboratory results, a clinical history and images. You will be required to analyse and discuss in detail what the results indicate.

This assessment will be in two parts due in different weeks.

- Part A which will be a case study relating to red cell changes.
- Part B will be a case study relating to haemostasis.

A report will need to be submitted on each clinical case with a detailed discussion of the interpretation of results, pathophysiology pertaining to the results and the possible clinical diagnosis and potential differential diagnosis. If relevant, further testing which could help with a diagnosis should also be discussed. This written assessment will be 20% of your final mark for this unit, 10% for Part A and 10% for Part B.

Assessment Due Date

Week 8 Friday (5 May 2023) 11:45 pm AEST

Part A: Due: Week 4: Friday 31/3/23 11:45pm Part B: Due: Week 8: Friday 5/5/23 11:45pm

Return Date to Students

Part A: Returned 21/4/23 Part B: Returned: 22/5/23

Weighting

20%

Minimum mark or grade

50%

Assessment Criteria

The clinical case studies will be assessed and marked as per the marking rubric which will be provided in the Assessment tile on Moodle.

The Assessment will be marked on the following:

- Analysis and interpretation of laboratory results.
- Ability to discuss the results and possible laboratory issues which may affect results.
- Discussion of clinical scenarios and possible differential diagnosis.
- Presentation of pathophysiology, aetiology and discussion of possible further testing within the clinical diagnosis discussion.

Referencing Style

- [Harvard \(author-date\)](#)
- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Critique the detection and monitoring of blood diseases using laboratory tests appropriate to the patient's clinical condition

2 Practical Assessment

Assessment Type

Written Assessment

Task Description

There will be a Practical Assessment on the final day of the Residential School and it is worth 30% of the unit grade. This assessment will have both practical and theory components.

Assessment Due Date

This practical assessment will be done on the final day of residential school.

Return Date to Students

Assessment will be returned within two weeks of the Residential school.

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

You must achieve a minimum of 50% marks in order to pass this assessment.

Students who pass the first attempt will be awarded the achieved grade up to 100% of the total marks. Students who fail the first attempt will be granted a second attempt. The second attempt will be conducted in the second half of the final day, prior to completion of the residential school session. The repeat attempt will be a pass/fail, with the maximum marks being 50% of the achievable marks.

Referencing Style

- [Harvard \(author-date\)](#)
- [Vancouver](#)

Submission

Offline

Learning Outcomes Assessed

- Distinguish benign from malignant haematological disorders based on numerical, cytogenetic and morphological changes in the cells
- Analyse results of haematological tests and provide provisional and differential diagnoses with suggested further testing to support and confirm the diagnosis

3 Laboratory/ Practical

Assessment Type

Laboratory/Practical

Task Description

Attendance at the Residential School is mandatory to pass the unit. This will be scheduled in CQUniversity's Term 3 and exact date will be advised.

Assessment Due Date

Laboratory Workbook will be due within a week of completion of the entire Residential school.

Return Date to Students

Assessment will be returned within two weeks of the Residential school.

Weighting

Pass/Fail

Minimum mark or grade

50%

Assessment Criteria

The Laboratory Workbook has a number of tasks to be completed and is a PASS/FAIL Assessment. You will be assessed on both theory and practical skills as part of the Practical Portfolio.

Referencing Style

- [Harvard \(author-date\)](#)
- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Perform core haematology and haemostasis tests including quality control procedures.

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

50%

Length

180 minutes

Minimum mark or grade

50%

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