



BMSC13001 *Advanced Haematology*

Term 1 - 2023

Profile information current as at 14/11/2025 04:27 am

All details in this unit profile for BMSC13001 have been officially approved by CQU University 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 apply your foundation knowledge of haematology to the study of how haematological disorders manifest and are diagnosed through changes in number, cytogenetics and morphology of cells. Diseases of haemostasis including therapeutic management with anticoagulants will also be discussed. This advanced unit builds on the knowledge and skills taught in previous units and will prepare you for work as a Medical Laboratory Scientist in Haematology. You will be required to attend a compulsory residential school in Rockhampton and an assessment task will be completed on campus during this residential school.

Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: BMSC12003 Haematology and Transfusion Science

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

- 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. **Written Assessment**

Weighting: 20%

2. **Practical Assessment**

Weighting: 30%

3. **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 SUTE

Feedback

Some students commented that the Residential School was content heavy and challenging.

Recommendation

Consider inclusion of more weekly morphology exercises using Cellavision Proficiency Software and morphology tutorials to support student learning in preparation for the residential school.

Feedback from SUTE

Feedback

Some students commented that no answers were provided to weekly questions.

Recommendation

Consider discussions of the weekly study questions in tutorial sessions to allow students to receive feedback on study questions.

Feedback from SUTE

Feedback

Some students commented that the sound quality of some lectures was suboptimal.

Recommendation

Continue to update lectures with improved audio clarity.

Feedback from Informal feedback during Residential School.

Feedback

Students commented that the Residential School's hands on experience puts into perspective much of the weekly lecture topics.

Recommendation

Continue Residential School in current format.

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. Discuss the detection and monitoring of blood diseases using laboratory tests appropriate to the patient's clinical condition.
3. Discuss disorders of haemostasis and the use of anticoagulant therapies.
4. Analyse results of hematological tests and provide provisional and differential diagnoses with suggested further testing to support and confirm the diagnosis.
5. Perform morphological analysis of peripheral blood smears to make a differential diagnosis.

Competency Based Standards for Medical Scientists, December 2009.

Unit 1: Collection, preparation and analysis of clinical material - **Elements** 1.1.1 - 1.1.3; 1.1.6 - 1.1.8; 1.2.4; 1.3.1 - 1.3.5; 1.5.1 - 1.5.5 & 1.6.1 - 1.6.8;

Unit 2: Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information - **Elements** 2.1.1 - 2.1.2; 2.2.1; 2.3.1 & 2.3.2

Unit 3: Interpretation, reporting and issuing of laboratory results - **Elements** 3.1.1; 3.2.1 - 3.2.3; 3.2.6 - 3.2.7 & 3.3.1 - 3.3.2

Unit 4: Maintenance of documentation, equipment, resources and stock - **Elements** 4.2.1 - 4.2.6

Unit 5: Maintenance and promotion of safe working practices - **Elements** 5.1.3; 5.2.1; 5.3.4; 5.3.9; 5.4.1 - 5.4.5

Unit 6: Professional accountability and participation in continuing professional development - **Elements** 6.5.6 & 6.5.7

Alignment of Learning Outcomes, Assessment and Graduate Attributes

N/A Level
 Introductory Level
 Intermediate Level
 Graduate Level
 Professional Level
 Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	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

BMSC13001

Prescribed

Clinical Haematology Atlas

Edition: 6th (2021)

Authors: Jacqueline H. Carr

Elsevier

St Louis , Missouri , United States of America

ISBN: 9780323711920

Binding: Spiral

BMSC13001

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

The textbooks can be accessed online at the CQUniversity Library website. Access can be limited, so 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. Introduction to Advanced Haematology 2. Bone Marrow Examination	Rodak's: Ch 1 & 14 Clinical Hematology Atlas: Ch 1-4,	
Week 2 - 13 Mar 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Haemolytic Anaemia 1. Increased RBC Destruction 2. Intrinsic Defects 3. Extrinsic Defects - Immune and Non-Immune Cause.	Rodak's : Ch 20-25 Clinical Hematology Atlas: Ch 10, 11, 12, 13	
Week 3 - 20 Mar 2023		
Module/Topic	Chapter	Events and Submissions/Topic
1. Thalassaemia and Haemoglobinopathy. 2. Paediatric and Geriatric Haematology 3. Platelet morphology	Rodak's: Ch 27,28, 43, 10 Clinical Hematology Atlas: Ch 11, 23, 4	
Week 4 - 27 Mar 2023		
Module/Topic	Chapter	Events and Submissions/Topic
1. Haemostasis: Laboratory Testing and Anticoagulants 2. Thrombosis and Coagulopathies	Rodak's: Ch 35, 36, 38-40	
Week 5 - 03 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
1. Non-malignant Leucocyte disorders. 2. Haematological malignancy; development, genetics and nomenclature	Rodak's: Ch 26, 28-30 Clinical Hematology Atlas: Ch 5-9, 14	Written Assessment - Case Study Report available The written assessment - Case Study Report comprises 20% of the overall unit mark.
Vacation Week - 10 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Independent study week - an opportunity for self-directed learning, mid-unit revision and catch up.		No lectures
Week 6 - 17 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Myeloid Leukaemia	Rodak's: Ch 27, 31 Clinical Hematology Atlas: Ch 15	
Week 7 - 24 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Lymphoid Leukaemia	Rodak's: Ch 28-31 Clinical Hematology Atlas: Ch 16,19	
Week 8 - 01 May 2023		
Module/Topic	Chapter	Events and Submissions/Topic
1. Lymphomas 2. Myelomas 3. Other Haematological Malignancies	Rodak's: Ch 34 Clinical Hematology Atlas: Ch 16,19	Case Study Report Due: Week 8 Friday (5 May 2023) 11:45 pm AEST
Week 9 - 08 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	

Week 10 - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Residential School: 18/05/23- 20/5/23	Laboratory Manual Laboratory Workbook Practical Assessment	Compulsory Residential School During the Residential School, you will be assessed on your ability to perform a number of morphological analyses as presented in your practical manual. The practical assessment comprises 30% of the overall unit mark.

Week 11 - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
1. Malaria 2. Quality Control	Rodak's: Ch 2, 22 Clinical Hematology Atlas: Ch 21	Practical Portfolio and Workbook Due: Week 11 Wednesday (24 May 2023) 11:45 pm AEST

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
Exam		

Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
End-of-Term Exam The End-of-Term Exam will be scheduled in the CQUniversity examination period. The exact date will be advised on the unit Moodle page. The end of term exam comprises 50% of of the overall unit mark.		

Term Specific Information

Unit Contacts for 2023

Unit Coordinators:

Jacqui Dennis

You can contact Jacqui using a number of methods:

1. The forum on the unit's Moodle site (The forum for this unit is continuously monitored and you can expect a response within 1-2 working days; or
2. Through email (j.dennis@cqu.edu.au)

This unit will continue to advance your knowledge of Haematology, through theoretical learning, diagnostic and clinical interpretation as well as practical skills gained at the residential school near the end of term.

BMSC13001 Advanced Haematology is a core unit in two courses:

- CL10 - Bachelor of Medical Laboratory Science (Honours)
- CG93 - Bachelor of Medical Science (Pathology)

Pre-recorded lectures and tutorials will be used throughout the term and will be available to students at the start of each lecture week. It is advisable to review the weekly lectures before each tutorial session.

Tutorials are delivered each week via Zoom. These tutorials will also be recorded for the benefit of those students who are unable to attend the live tutorial. During these tutorials, the weekly content will be addressed either through discussions or a live morphology session.

I recommend that you download the mobile apps to assist you with performing white cell differential counts.

These weekly tutorials will help you to apply knowledge learned during the weekly lecture and prepare you for the assessments. You will get the most benefit from the tutorials if you watch the weekly lectures and do the recommended reading beforehand. You are strongly encouraged to participate in tutorials.

Students have e-access to the prescribed textbook, additional reading resources and some of the supplementary textbooks on the Moodle site. Attendance at the Residential School is compulsory for all students. Further details will be provided on your Moodle page during the term. Students are encouraged to use the Moodle Q&A for all communication purposes. This will be monitored regularly. You will be provided an opportunity to explore how to apply the knowledge learned in lecture material in a compulsory residential school.

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 watching recorded lectures and revising the content through study notes
- 3 - 4 hours per week completing the weekly study questions and completing the weekly readings.
- 1 - 2 hours per week attending the weekly tutorial and reflecting on your answers to the weekly study questions
- 3 - 4 hours per week preparing your assessments or studying for your exams

Assessment Tasks

1 Case Study Report

Assessment Type

Written Assessment

Task Description

You will be provided with an authentic clinical case study on the unit Moodle site.

The following information regarding the case will be available to you: clinical presentation, patient history, blood smear morphology, haematological parameters (provided by an automated analyser) and biochemical changes (if any).

You are required to analyse a case study, in the format of short answer questions, describing the pathology observed, aetiology, specific morphological or haematological characteristics observed that led to the diagnosis, differential diagnosis, treatment options and any recommended further tests. Guidelines to complete the report, marking rubric and a template will be available on the Moodle site.

Assessment Due Date

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

Answers must be submitted on the template provided uploaded to the Moodle site.

Return Date to Students

Week 8 Friday (5 May 2023)

Feedback will be provided on the Moodle site.

Weighting

20%

Minimum mark or grade

50% of total attainable marks.

Assessment Criteria

The case study assessment is worth 20% of your total unit marks.

The assessment task is marked according to how well you have met the specific requirements and in accordance with the detailed marking rubric, which is available on the Moodle site.

Please note that all late submissions will be penalised 5% per calendar day unless an application for an extension has been approved.

All extension requests must be made through the extension request system on Moodle with the appropriate documentation.

Referencing Style

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

Submission

Online

Submission Instructions

By midnight on due date.

Learning Outcomes Assessed

- Discuss the detection and monitoring of blood diseases using laboratory tests appropriate to the patient's clinical condition.
- Analyse results of hematological tests and provide provisional and differential diagnoses with suggested further testing to support and confirm the diagnosis.
- Perform morphological analysis of peripheral blood smears to make a differential diagnosis.

2 Practical Portfolio and Workbook

Assessment Type

Practical Assessment

Task Description

For medical laboratory scientists within the area of Haematology in a pathology laboratory, it is essential that analysis of a wide range of benign and malignant disorders of different types of blood cells in adult and children are performed and interpreted correctly. Individual activities will provide hands-on experience of haematological techniques in analysis of a wide range of clinical conditions. Completion of the Laboratory Workbook will evidence student's engagement and understanding of the principles behind the haematological tests.

During the residential school you are required to complete:

(A) Laboratory workbook (Pass/Fail): You will be provided with the laboratory workbook on the Moodle site prior to residential school. This will contain a set of blood films with authentic cases to be reviewed and results interpreted based on the data provided.

(B) Practical Assessment (30%): This will be conducted on the final day of the residential school. It will encompass skills practiced on the days leading up to this assessment. You will be provided a set of blood films with authentic cases to be reviewed and results interpreted based on the data provided.

Assessment Due Date

Week 11 Wednesday (24 May 2023) 11:45 pm AEST

Part B will be conducted on Saturday 20th May.

Return Date to Students

Week 12 Friday (2 June 2023)

Feedback will be provided on the Moodle site.

Weighting

30%

Minimum mark or grade

50% of total attainable marks each for Laboratory Workbook and Practical Examination.

Assessment Criteria

(A) Laboratory workbook (Pass/Fail): The laboratory workbook will contain a detailed assessment scheme associated with the tasks and questions/reports to be completed. The laboratory staff will provide immediate verbal feedback to you on the practical hands-on aspect of this assessment item. You are required to submit the completed version of the laboratory workbook on the Moodle site. You must achieve a pass grade in order to pass this assessment. Students who do not achieve the required 50% on the 1st attempt may be granted an opportunity to reattempt the assessment. The re-attempt must be submitted within seven consecutive days after receiving a mark for the initial assessment.

(B) Practical Assessment (30%): You must achieve a minimum of 50% marks in order to pass this examination. Students who pass the first attempt will be awarded the achieved grade, up to 100% of the total marks. Students who fail the 1st attempt will be granted a second attempt. The second attempt will be conducted in the second half of the final day. The repeat attempt will be a pass/fail, with the maximum marks being 50% of the total achievable marks.

Referencing Style

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

Submission

Offline Online

Submission Instructions

Hand practical exam to assessor at completion on the final day of residential school. Submit the completed version of the laboratory workbook on the Moodle site.

Learning Outcomes Assessed

- Distinguish benign from malignant haematological disorders based on numerical, cytogenetic and morphological changes in the cells.
- Perform morphological analysis of peripheral blood smears to make a differential diagnosis.

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