



# BMSC13001 *Advanced Haematology*

## Term 1 - 2018

Profile information current as at 06/05/2024 11:33 am

All details in this unit profile for BMSC13001 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 appraise and perform advanced haematological methods used in the diagnosis and monitoring of blood diseases. Therapeutic management of diseases of blood coagulation will also be investigated.

#### 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 - 2018

- 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 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: 40%

#### 2. **Practical Assessment**

Weighting: Pass/Fail

#### 3. **Examination**

Weighting: 60%

### 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 Industry expert

##### Feedback

Replace the G6PD test in the lab manual with something more relevant that medical scientist would see more of.

##### Recommendation

Replace with snake bite testing, more likely to be seen in the lab.

#### Feedback from Unit evaluation response

##### Feedback

The best part of the unit was to have a lecturer that knows what she is talking about, the industry expert was very knowledgeable and knew how to teach really well. Please make sure you find more lecturers like her, as she is a great addition to the Pathology program.

##### Recommendation

Continue to use industry experts to enhance the learning and teaching outcomes and to maintain relevance to industry standards and practices.

#### Feedback from Unit evaluation response

##### Feedback

The blood film slides need to be totally replaced they are poorly stained and make it impossible to determine the morphology. The case study example was poor.

##### Recommendation

Replace the few remaining old practice slides, all the assessment slides were replaced at the end of 2016. Use new material for the case study.

## Unit Learning Outcomes

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

1. Discuss the limitations of haematology laboratory procedures and the use of tests within specified limits
2. Discuss the detection and monitoring of blood diseases including factors essential in the development of new tests
3. Perform haematological tests and instrument quality control processes
4. Discuss laboratory report presentation and interpretation of results including the concept of therapeutic range of anticoagulant therapy
5. Analyse results of hematological tests and instrument quality control processes instituting corrective action as required.

## 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 - Written Assessment - 40%	•	•		•	
2 - Practical Assessment - 0%			•		•
3 - Examination - 60%	•	•		•	•

## 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					

## Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 40%	•	•	•							
2 - Practical Assessment - 0%	•	•	•	•	•	•				
3 - Examination - 60%	•		•	•						

## Textbooks and Resources

### Textbooks

BMSC13001

#### Prescribed

##### **Rodak's Hematology: Clinical Principles and Applications**

Edition: 5th edn (2015)

Authors: Keohane, Smith & Walenga

Elsevier Saunders

St Louis , MS , USA

ISBN: 9780323239066

Binding: Other

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#### Supplementary

##### **Clinical Hematology Atlas**

Edition: 5th edn (2016)

Authors: Rodak & Carr

Elsevier

St Louis , MS , USA

ISBN: 9780323322492

Binding: Other

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Digital microscope

## Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Andrew Taylor-Robinson** Unit Coordinator

[a.taylor-robinson@cqu.edu.au](mailto:a.taylor-robinson@cqu.edu.au)

## Schedule

### Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
1. Introduction to Advanced Haematology	16	
2. Bone Marrow Examination		

### Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
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- |   |       |
|---|-------|
| 1. Increased RBC Destruction                        | 22-25 |
| 2. Intrinsic Defects                                |       |
| 3. Extrinsic Defects - Immune and Non-Immune Causes |       |

### Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
1. Non-Malignant Leucocyte Disorders	28, 38	
2. Paediatric and Geriatric Haematology		

### Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Haematological malignancy development, genetics and nomenclature	29-33	

### Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
1. Myelodysplastic Syndromes	34, 35	
2. Myeloproliferative Neoplasms		

### Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
		No lecture
Independent Study		<b>Case Study Report</b> Due: Vacation Week Monday (9 Apr 2018) 11:45 pm AEST

### Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Myeloid Leukaemia	34-37	

### Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Lymphoid Leukaemia	34-37	

### Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
1. Lymphomas	29-37	
2. Myelomas		
3. Other Haematological Malignancies		

### Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
1. Anticoagulants and Coagulopathies	40-47	
2. Platelet Disorders		

### Week 10 - 14 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Malaria and other Blood Parasites	24	

### Week 11 - 21 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Compulsory Residential School	Practical Workbook	No lecture - residential school held this week

### Week 12 - 28 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
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**Review/Exam Week - 04 Jun 2018**

Module/Topic	Chapter	Events and Submissions/Topic
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**Exam Week - 11 Jun 2018**

Module/Topic	Chapter	Events and Submissions/Topic
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## Assessment Tasks

### 1 Case Study Report

**Assessment Type**

Written Assessment

**Task Description**

You will be provided on the unit moodle site with an authentic clinical case study. 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 write a report (up to 1,500 words) using a case study approach 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 made available.

**Assessment Due Date**

Vacation Week Monday (9 Apr 2018) 11:45 pm AEST

**Return Date to Students**

Week 7 Thursday (26 Apr 2018)

**Weighting**

40%

**Minimum mark or grade**

50% of the total available marks

**Assessment Criteria**

The assessment task is marked according to how well you have met the specific requirements and in accordance with the criteria outlined below:

**Presentation:** the report is presented in the required template; clarity of purpose and coherence of expression (spelling, grammar, syntax); clear and organised flow of information.

**Abstract:** provides a clear overview and overall summary of the case study.

**Introduction:** provides necessary background information and pathophysiology of the case; does not discuss the final diagnosis rather supports the intended diagnosis via arguments.

**Materials and Methods:** briefly describes all the methods used to aid in diagnosis; discusses further tests to be employed in order to confirm the diagnosis.

**Results:** all data presented clearly with reference ranges; layout is clear with further tests and expected results discussed.

**Discussion:** clear discussion of the results with supporting arguments and reasoning for arriving at the final diagnosis.

**References:** Harvard referencing system used with appropriate in-text references

The written assessment is worth 40% of your final grade.

**Referencing Style**

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

**Submission**

Online

### **Learning Outcomes Assessed**

- Discuss the limitations of haematology laboratory procedures and the use of tests within specified limits
- Discuss the detection and monitoring of blood diseases including factors essential in the development of new tests
- Discuss laboratory report presentation and interpretation of results including the concept of therapeutic range of anticoagulant therapy

### **Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking

## **2 Practical Assessment**

### **Assessment Type**

Practical Assessment

### **Task Description**

You will be provided on the moodle site with a laboratory workbook. This will contain all the tasks that need to be completed during the residential school. It will also contain a series of short questions and patient reports to be completed in relation to the authentic cases provided. Group experimental activities during the residential school will foster team work and provide hands-on experience of the haematological techniques used in pathology laboratories. Completion of the workbook will evidence student engagement and understanding of the principles behind the haematological tests. Laboratory staff or demonstrators will assess your individual experimental capability during residential school to ensure your understanding of the learning outcomes. You will be required to submit the completed version of the laboratory workbook on the moodle site.

Important: On Day 3 of your residential school, you will have a final practical examination. Further details regarding the examination will be available on the moodle site.

### **Assessment Due Date**

Week 12 Friday (1 June 2018) 11:45 pm AEST

### **Return Date to Students**

Exam Week Friday (15 June 2018)

### **Weighting**

Pass/Fail

### **Minimum mark or grade**

50% of the total available marks

### **Assessment Criteria**

- Residential School and Workbook component: The laboratory staff will provide immediate verbal feedback to you on the practical hands-on aspect of this assessment item. The laboratory workbook template will contain a detailed assessment scheme associated with the tasks and questions/reports to be completed.
- Practical Examination component: This will be conducted on Day 3 of the residential school. Further information on the examination will be available on the moodle site.
- You should obtain a minimum 50% mark for both your laboratory workbook and practical examination in order to pass this assessment. A pass is required in order to successfully complete the unit; however, the mark will not contribute to the overall mark, i.e. assessment of the residential school will be on a 'pass/fail' basis.

### **Referencing Style**

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

### **Submission**

Offline Online



**Submission Instructions**

Students may submit their workbook at the end of the residential school or online by the following week.

**Learning Outcomes Assessed**

- Perform haematological tests and instrument quality control processes
- Analyse results of hematological tests and instrument quality control processes instituting corrective action as required.

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence

## Examination

**Outline**

Complete an invigilated examination.

**Date**

During the examination period at a CQUniversity examination centre.

**Weighting**

60%

**Length**

180 minutes

**Minimum mark or grade**

50% of the total available marks

**Exam Conditions**

Closed Book.

**Materials**

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

Calculator - non-programmable, no text retrieval, silent only

## 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