



# BMSC13011 *Advanced Transfusion Science*

## Term 2 - 2018

Profile information current as at 21/04/2024 01:00 am

All details in this unit profile for BMSC13011 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.

### Corrections

Unit Profile Correction added on 02-08-18

Exam Conditions: Closed Book

### General Information

#### Overview

This unit enables you to develop an advanced knowledge and understanding of the principles of transfusion science. You will gain vital knowledge on topics such as blood storage, blood typing, cross matching and immune response. The theoretical and practical sessions will allow you to develop skills in antenatal and postnatal screening in addition to performing tests required for emergency or planned blood transfusions.

#### 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

Pre-requisites: BMSC12003 - Haematology and Transfusion Science and BMSC13009 - Immunology

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 - 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. **Practical Assessment**

Weighting: 50%

#### 2. **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 feedback report

##### Feedback

Well structured Moodle site with through answers to Q&As and discussion forum queries

##### Recommendation

Year on year the navigation of the moodle site is reappraised to ensure ease of access to online learning resources. Whenever possible, it is the intention to provide full and prompt responses to all student queries, either posted on the message board or by direct e-mail to the unit coordinator.

#### Feedback from Student feedback report

##### Feedback

Very well organised and informative residential school

##### Recommendation

We reassess the content and order of the practical classes each year, so that the subsequent iteration better meets the delivery of the intended learning outcomes. This is especially important for a unit in which putting theory into practice is such an important aspect

## Unit Learning Outcomes

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

1. Discuss the production, labelling and storage of human blood products and their medical uses
2. Explain the classification of adverse transfusion reactions and the consequences of using incompatible blood products.
3. Perform advanced pre-transfusion testing plus antenatal / post natal screening and interpret the results
4. Perform testing for autoantibodies and discuss their role in erythrocyte destruction and tissue inflammation
5. Perform quality control in transfusion science and critically analyse the results.

## 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
<b>1 - Practical Assessment - 50%</b>			•	•	•
<b>2 - Examination - 50%</b>	•	•	•	•	•

### 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 - Practical Assessment - 50%	•	•	•	•	•	•				
2 - Examination - 50%	•	•	•	•				•		

## Textbooks and Resources

### Textbooks

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#### Prescribed

##### **Immunohematology: Principles and Practice**

Edition: 3rd (2011)

Authors: Eva D. Quinley  
Lippincott Williams & Wilkins  
Sydney , NSW , Australia  
ISBN: 978-0781782043  
Binding: Hardcover  
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#### Supplementary

##### **Basic & Applied Concepts of Blood Banking and Transfusion Practices**

Edition: 4th (2016)

Authors: Paula R. Howard  
Elsevier  
St Louis , USA  
ISBN: 978-0323374781  
Binding: Paperback  
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#### Supplementary

##### **Transfusion & Transplantation Science**

Edition: 1st (2013)

Authors: Robin Knight  
Oxford University Press  
Oxford , UK  
ISBN: 978-0199533282  
Binding: Paperback

#### Additional Textbook Information

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

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

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

## Referencing Style

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

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)
- [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 - 09 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction - Genetics and Immunological Principles	Unit 2 - Chapters 4 & 5	

### Week 2 - 16 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Blood and Blood Components	Unit 1 - Chapters 1 - 3 Unit 6 - Chapter 15	

### Week 3 - 23 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Red Cell Blood Groups and HLA	Unit 4 - Chapters 9 - 12	

### Week 4 - 30 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Principles of Testing	Unit 3 - Chapters 6 & 8	

### Week 5 - 06 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Clinical Conditions Associated with Transfusion Science	Unit 6 - Chapters 14, 16 & 17	

### Vacation Week - 13 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Independent study- an opportunity for self-directed learning and mid-unit revision.		

### Week 6 - 20 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Quality Assurance & Regulatory Issues	Unit 7 - Chapters 18 - 21	

### Week 7 - 27 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Haemolytic Disease of the Foetus and Newborn.	Unit 6 - Chapter 16.	

### Week 8 - 03 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Transfusion Specific Blood Fractions	Unit 5 - Chapter 13	

### Week 9 - 10 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Resolving Transfusion Problems - Case studies Part 1	Case Studies to be provided	

### Week 10 - 17 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Resolving Transfusion Problems - Case studies Part 2	Case Studies to be provided	

### Week 11 - 24 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Unit Revision	On-line Q&A session	

## Week 12 - 01 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
Residential School - Tuesday October 2nd - Thursday October 4th inclusive.		During the Residential School you will be assessed on your competence to perform safely different blood banking techniques and to interpret correctly collected data. The Laboratory Workbook is to be submitted by Friday October 12th, to be uploaded into Moodle. The practical assessment comprises 50% of the overall unit mark.

## Review/Exam Week - 08 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
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## Exam Week - 15 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
		The end-of-unit exam comprises 50% of the overall unit mark.

## Term Specific Information

### Unit Contacts for 2018

#### Unit Coordinator

Professor Andrew Taylor-Robinson  
a.taylor-robinson@cqu.edu.au

#### Lecturer

Roxina Sharma  
r.r.sharma@cqu.edu.au

#### Tutor

Wayne Pederick  
w.pederick@cqu.edu.au

This year we have Roxina Sharma, Senior Scientist and Blood Bank Trainer from Sullivan Nicolaides Pathology in Brisbane delivering the lectures. Roxina has extensive experience in Transfusion Science and she will also be present at the Residential School.

Her lectures will be recorded and uploaded to Moodle each week and a weekly Tutorial session will be held on the Rockhampton campus with a Zoom link allowing students to engage with the Academic staff.

## Assessment Tasks

### 1 Practical Assessment

#### Assessment Type

Practical Assessment

#### Task Description

For Medical Scientists working in Laboratory Transfusion Science Departments it is essential that laboratory techniques are performed and interpreted correctly each and every time. Failure to do this has potentially fatal consequences. For this reason, demonstration of practical competence is heavily weighted at 50% of the total unit mark.

During the residential school you will complete:

- (1) Laboratory workbook (25%): answer a set of questions in the laboratory workbook and interpret results as you perform each practical task;
- (2) Practical assessment (25%): you will undertake a practical assessment in which you will be required to perform routine blood banking techniques in order to obtain valid results and to interpret the data correctly.

#### Assessment Due Date

Your practical assessment will be completed in the last session of the Residential School and your Laboratory Workbook must be uploaded to the course Moodle site before the due date.

### **Return Date to Students**

The practical assessment will be performed and marked in-class. The Laboratory Workbook will be returned within 3 weeks of submission.

### **Weighting**

50%

### **Minimum mark or grade**

You should obtain a minimum 50% mark in both your Laboratory Workbook and practical assessment in order to pass this assessment.

### **Assessment Criteria**

1. Laboratory Workbook: Each section will have assigned marks depending on the complexity of the task to be performed. A total mark obtained for the workbook and associated tasks will then be converted to 25% of your final grade. The laboratory staff will provide active verbal feedback to you on the practical hands-on aspect of this assessment item. The laboratory workbook template will contain the weighted marks associated with the tasks and subsequent questions/reports to be completed.
2. Practical assessment: The practical assessment conducted on the last session of the residential school is worth 25% of your final grade. It will assess your ability to perform blood banking techniques and accurately interpret results to arrive at a provisional diagnosis. Further information on the assessment will be available on the Moodle site.

### **Referencing Style**

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)
- [Harvard \(author-date\)](#)

### **Submission**

Online

### **Submission Instructions**

Submit to Moodle by the Friday of the week following the Residential School

### **Learning Outcomes Assessed**

- Perform advanced pre-transfusion testing plus antenatal / post natal screening and interpret the results
- Perform testing for autoantibodies and discuss their role in erythrocyte destruction and tissue inflammation
- Perform quality control in transfusion science and critically analyse the results.

### **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**

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).

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