



BMSC13009 Immunology

Term 1 - 2021

Profile information current as at 25/04/2024 10:55 pm

All details in this unit profile for BMSC13009 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

The study of Immunology will introduce you to the structure and function of the human immune system. You will explore the mechanisms behind the human body's efforts to detect, contain and remove or destroy harmful pathogens whilst retaining tolerance to its own cells. In this unit you will also examine the consequences of a malfunctioning immune system.

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

Prerequisite BMSC11002 Human Body Systems 2 or BMSC11011- Human Anatomy and Physiology 2

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 - 2021

- 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: 25%

2. **Practical Assessment**

Weighting: 25%

3. **Online Test**

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

Feedback

Additional learning resources for the unit were limited

Recommendation

Introduce weekly practice quizzes based on content to help facilitate learning

Feedback from Student feedback

Feedback

Students felt the tutorials reviewing content were beneficial

Recommendation

Continue live tutorials throughout the term.

Unit Learning Outcomes

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

1. Assess the role of the major cells and tissues in the induction of an immune response
2. Explain the processes of self/non-self-discrimination and disorders that arise as a result of dysfunction in self/non-self-recognition (autoimmunity)
3. Describe how the non-specific and specific arms of the immune system work together to affect an immune response
4. Evaluate how the structure and function of antigen recognition molecules facilitate the interaction with antigen
5. Compare the typical mammalian immune system responses to proteins, bacteria, viruses, protozoa, helminths, fungi and other representative multi-cellular organisms
6. Demonstrate competence in the use of primary resource material for experimental and research assignment purposes.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Practical Assessment - 25%	•			•	•	•
2 - Written Assessment - 25%	•	•	•	•	•	•
3 - Online Test - 50%	•	•	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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 - 25%	•	•	•	•		•				
2 - Written Assessment - 25%	•	•	•	•		•				
3 - Online Test - 50%	•	•	•			•				

Textbooks and Resources

Textbooks

BMSC13009

Prescribed

Basic Immunology

Edition: 6th (2019)

Authors: Abul Abbas, Andrew Lichtman, Shiv Pillai

Elsevier

ISBN: 9780323549431

Binding: Paperback

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:

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

For further information, see the Assessment Tasks.

Teaching Contacts

Jason Steel Unit Coordinator

j.steel@cqu.edu.au

Schedule

Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Immunology	Basic Immunology 6th (2019) Abul Abbas, Andrew Lichtman, Shiv Pillai Chapter 1	Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Innate Immune System	Chapter 2	Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Antigen Capture and Presentation	Chapter 3	Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
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Antigen Recognition in the Adaptive Immune System

Chapter 4

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 5 - 05 Apr 2021

Module/Topic

Chapter

Events and Submissions/Topic

T cell-mediated Immunity

Chapter 5

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Vacation Week - 12 Apr 2021

Module/Topic

Chapter

Events and Submissions/Topic

Independent Study

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 6 - 19 Apr 2021

Module/Topic

Chapter

Events and Submissions/Topic

Effector Mechanisms of the T-cell

Chapter 6

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 7 - 26 Apr 2021

Module/Topic

Chapter

Events and Submissions/Topic

Humoral Immune Responses

Chapter 7

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

WRITTEN ASSESSMENT Due: Week 7 Friday (30 Apr 2021) 5:00 pm AEST

Week 8 - 03 May 2021

Module/Topic

Chapter

Events and Submissions/Topic

Effector Mechanisms of the Humoral System

Chapter 8

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 9 - 10 May 2021

Module/Topic

Chapter

Events and Submissions/Topic

Immunological Tolerance and Autoimmunity

Chapter 9

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 10 - 17 May 2021

Module/Topic

Chapter

Events and Submissions/Topic

Compulsory Residential School

Immunology Residential School

Week 11 - 24 May 2021

Module/Topic

Chapter

Events and Submissions/Topic

Immunology in Non-Microbiological Diseases

Chapters 10, 11 & 12

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 12 - 31 May 2021

Module/Topic

Chapter

Events and Submissions/Topic

Revision and exam preparation

Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Practical Assessment Due: Week 12 Friday (4 June 2021) 5:00 pm AEST

Review/Exam Week - 07 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic
Exam Week - 14 Jun 2021		
Module/Topic	Chapter	Events and Submissions/Topic
		Online Test Due: Exam Week Monday (14 June 2021) 11:45 pm AEST

Term Specific Information

The coordinator for this unit is Dr Jason Steel. Please feel free to contact me anytime on j.steel@cqu.edu.au or on 07 4930 6391.

TEXTBOOK

Basic Immunology 6th (2019)

Authors: Abul Abbas, Andrew Lichtman, Shiv Pillai

LECTURES

The lectures are prerecorded by Dr Jason Steel

The tutorials are delivered by Dr Jason Steel and will re-enforce the information from the pre-recorded lectures.

RESIDENTIAL SCHOOL

There is a compulsory Residential School associated with this unit, which is held from 16th May until 17th May 2021.

An online drop-in session will be provided in the week following the residential school to provide support for the analysis and interpretation of data gathered during the Residential School. Attendance at this online session is non-compulsory and times can be scheduled accordingly for individual or group discussions as required.

Assessment Tasks

1 WRITTEN ASSESSMENT

Assessment Type

Written Assessment

Task Description

Students are to prepare a **1000 word outline** that “**Explains the 'innate' and 'T-cell mediated' immune responses to a novel coronavirus and outline how the non-specific and specific arms of the immune system cooperate to effect an immune response**”. You are not to write about SARS-CoV-2 specifically but rather the immune responses that occur against any coronavirus.

Well written summaries will serve as a valuable study tool and will ensure you have a solid understanding of the fundamental content presented in the first half of the term.

Your marks will be derived from the readability of the material, its relevance to the topic and the source of the material(s) that you used to create your topic outline. It is expected peer-reviewed references will be utilised in preparing this document. The reference list will not be included in the word limit.

Assessment Due Date

Week 7 Friday (30 Apr 2021) 5:00 pm AEST

Return Date to Students

Week 10 Monday (17 May 2021)

Weighting

25%

Minimum mark or grade

12.5/25

Assessment Criteria

The following criteria and marking scheme will be used to evaluate your assignment:

1. Relevance to the learning objective (10 marks) Does the material 'fit' within the guidelines of the learning outcome? Does the summary cover all aspects relating to the selected topic?
2. Readability and accessibility of the material (5 marks) The content should be pitched at an appropriate level
3. Structure, organisation and quality of the assignment (5 marks) Does it have a well-defined introduction, body and conclusion? Is it an appropriate length (not excessively over nor under the word limit)? Language skills (grammar, spelling and sentence structure) and innovation will also be assessed.

4. References (5 marks) A bibliography and appropriate in-text referencing should be included. Note that the reference list is additional to the word limit. The quality of material(s) used will be considered. It is anticipated that no less than 5 peer review journal articles will be used in preparing this report.

Total 25

Referencing Style

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

Submission

Online

Submission Instructions

Assignment must be submitted as a Microsoft word file or a PDF.

Learning Outcomes Assessed

- Assess the role of the major cells and tissues in the induction of an immune response
- Explain the processes of self/non-self-discrimination and disorders that arise as a result of dysfunction in self/non-self-recognition (autoimmunity)
- Describe how the non-specific and specific arms of the immune system work together to affect an immune response
- Evaluate how the structure and function of antigen recognition molecules facilitate the interaction with antigen
- Compare the typical mammalian immune system responses to proteins, bacteria, viruses, protozoa, helminths, fungi and other representative multi-cellular organisms
- Demonstrate competence in the use of primary resource material for experimental and research assignment purposes.

Graduate Attributes

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

2 Practical Assessment

Assessment Type

Practical Assessment

Task Description

Using the data generated from the ELISA and Western blot experiments performed during the Residential School, students are to write up their results in the format of a scientific journal article.

The presentation and formatting should adhere to the 'information for authors' guidelines for manuscript preparation set out by the Journal of Immunology. This document can be downloaded from the journal's webpage:

<http://www.jimmunol.org/info/authors>.

It is also worth looking at sample papers published on the journal's website (the open access ones should be freely accessible from any site - look out for the unlocked symbol).

Assessment Due Date

Week 12 Friday (4 June 2021) 5:00 pm AEST

Return Date to Students

Within 2 weeks of assessment date.

Weighting

25%

Minimum mark or grade

12.5/25

Assessment Criteria

1. Title, abstract and keywords (2 marks) The title should be appropriate (descriptive but not overly lengthy). The abstract should provide a succinct summary of the paper being presented. Keywords should be listed on the cover pages using the instructions outlined by the Journal of Immunology.
2. Introduction (5 marks) The introduction should orientate the reader with a brief outline of background knowledge surrounding the experiments and also indicate the aims and hypothesis.

3. Methods (4 marks) A brief outline of the method performed must be included. The methods should be presented in your own words as it is not sufficient to re-write a step-by-step account from your laboratory manual, nor is it appropriate to write "as per lab manual".
4. Results (4 marks) The results should be clearly presented and analyzed where appropriate. Graphs, tables and/or figures should be labelled and have appropriate headings.
5. Discussion (5 marks) The discussion should be appropriate to the experiment being presented and balanced between the analysis of the actual results obtained and their relevance to the discipline of immunology. Note - it is NOT sufficient to provide a discussion that merely states the possible sources of error for the experiment being performed.
6. References (2 marks) You should use appropriate support material(s) to justify the position taken by the paper. References must be presented in accordance with the format outlined by the Journal of Immunology. Primary references will be highly valued, followed by secondary references. It is anticipated that no less than 5 peer-reviewed journal articles will be used when preparing this report.
7. Presentation / Structure and Quality (3 marks) Does the submission adhere to the format / presentation accepted by the Journal of Immunology as outlined in "information for authors"? Language skills (grammar, spelling and sentence structure) and innovation will also be assessed.
- Total 25 marks

Referencing Style

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

Submission

Online

Submission Instructions

Assignment must be submitted as a Microsoft Word file or a PDF.

Learning Outcomes Assessed

- Assess the role of the major cells and tissues in the induction of an immune response
- Evaluate how the structure and function of antigen recognition molecules facilitate the interaction with antigen
- Compare the typical mammalian immune system responses to proteins, bacteria, viruses, protozoa, helminths, fungi and other representative multi-cellular organisms
- Demonstrate competence in the use of primary resource material for experimental and research assignment purposes.

Graduate Attributes

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

3 Online Test

Assessment Type

Online Test

Task Description

Students will be required to undertake a final online test for this unit.

The online test will assess knowledge and understanding of class content from Weeks 1-9 and will be made up of 3 sections. Section A is worth 40 marks and contains 40 Multiple choice questions; Section B is worth 30 marks and consists of 15 short answer questions; Section C is worth 30 marks and consists of 5 long answers of which ONLY THREE (3) should be answered.

Assessment Due Date

Exam Week Monday (14 June 2021) 11:45 pm AEST

The date of the online test will be finalised during the term.

Return Date to Students

Weighting

50%

Minimum mark or grade

25/50

Assessment Criteria

No Assessment Criteria

Referencing Style

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

Submission

Online

Submission Instructions

Online test will be conducted from the unit's Moodle page.

Learning Outcomes Assessed

- Assess the role of the major cells and tissues in the induction of an immune response
- Explain the processes of self/non-self-discrimination and disorders that arise as a result of dysfunction in self/non-self-recognition (autoimmunity)
- Describe how the non-specific and specific arms of the immune system work together to affect an immune response
- Evaluate how the structure and function of antigen recognition molecules facilitate the interaction with antigen
- Compare the typical mammalian immune system responses to proteins, bacteria, viruses, protozoa, helminths, fungi and other representative multi-cellular organisms

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Technology Competence

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