BMSC13009 *Immunology*
Term 1 - 2019

Profile information current as at 10/04/2024 11:20 pm

General Information

Overview
The study of Immunology introduces the student to pre-natal and post-natal development of the human immune system and its function in health and disease states, this includes autoimmune disorders, hypersensitivity reactions and microbiological infections. Students will also learn about the diagnostic uses of antibodies, vaccine design and preventive and therapeutic uses of vaccines.

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 BMSC12010 Clinical Biochemistry or BMED19003 Clinical Biochemistry
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 - 2019

- 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. **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 Unit Evaluations

Feedback

A common theme recognised across a majority of student responses was the value and efficiency of assessment return and response to student queries.

Recommendation

Every effort will be made to post a rapid response to student queries and to provide formative feedback on written and practical assessments in good time so that this may be of real benefit during the term and in preparation for the final exam.

Feedback from Unit Evaluations

Feedback

Praise for the residential school identified the structured program as easy to progress through, very informative and as providing a very helpful guide to student learning in practical aspects of immunology.

Recommendation

If the recent expansion of student numbers is maintained, consideration will be given to tailoring practicals to meet the logistical demands of larger class sizes. This year, the excellent and enthusiastic support of two demonstrators was invaluable to running the residential school, with practical classes split between adjoining laboratories. It is important that such knowledgeable and engaging staff are retained for this role in future years.

Feedback from Unit Evaluations

Feedback

While feedback on lectures was strongly affirmative, a minority of students suggested that the recordings would benefit from updating with a view to improved continuity between lectures and better accessibility across different technology platforms.

Recommendation

Some lectures will be refreshed, providing greater continuity and enhancing recording quality. The content will remain largely unchanged in close alignment with the latest edition of the prescribed textbook and in adherence to the unit's intended learning outcomes.

Unit Learning Outcomes

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

1. List the major cells and tissues of the immune system and state their function in the immune response.
2. Explain, using examples, the processes of self / non-self-discrimination and disorders that arise as a result of dysfunction in self/non-self-recognition (autoimmunity).
3. Define, using examples, the terms 'innate' and 'specific' immunity and describe how the non-specific and specific arms of the immune system work together to effect an immune response.
4. Describe, using examples, the structure and function of antigen recognition molecules.
5. Define and give examples of the effects of immune 'dysfunction' such as hypersensitivity and immunodeficiency.
6. Outline the host responses to transplantation and be able to define xenotransplantation and discuss advantages and disadvantages of this process.
7. Describe, the typical mammalian immune system responses to proteins, bacteria, viruses, protozoa, helminths, fungi and other representative multi-cellular organisms.
8. Demonstrate competence in the use of primary resource material for experimental and research assignment purposes.

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	6	7	8
1 - Practical Assessment - 25%	•			•			•	•
2 - Written Assessment - 25%	•	•	•	•	•	•	•	•
3 - Examination - 50%	•	•	•	•	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes							
	1	2	3	4	5	6	7	8
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 - Examination - 50%	•	•	•							

Textbooks and Resources

Textbooks

BMSC13009

Prescribed

Kuby Immunology
Edition: 7th (2013)
Authors: J.A. Owen, J. Punt, S.A. Stranford
W.H. Freeman and Company
New York , NY , USA
ISBN: 978-14641-3784-6
Binding: Paperback

Additional Textbook Information
Copies can be purchased from 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)

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

Schedule

Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Overview of the Immune System - Immunological Organs and Cells / Innate Immunity.	Chapters 1, 2, 5.	Zoom tutorial available.

Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Complement System / Cytokines.	Chapters 6, 4.	Zoom tutorial available.

Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Adaptive Immunity - B cells / Antibodies.	Chapters 3, 7, 10, 12, 20.	Zoom tutorial available.

Week 4 - 01 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic

Adaptive Immunity - T cells / MHC Molecules.	Chapters 3, 8, 9, 11.	Zoom tutorial available.

Week 5 - 08 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Effector Immune Responses.	Chapters 13, 14.	Zoom tutorial available.

Vacation Week - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Independent Study.		

Week 6 - 22 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Tolerance, Autoimmunity and Transplantation.	Chapter 16.	Outline of the innate and adaptive immune systems Due: Week 6 Tuesday (23 Apr 2019) 11:45 pm AEST. Please note that the submission deadline is extended to follow the Easter long weekend (usual submission date falls on a Monday). Zoom tutorial available. **Outline of the innate and adaptive immune systems** Due: Week 6 Tuesday (23 Apr 2019) 11:45 pm AEST

Week 7 - 29 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Immunodeficiencies / Hypersensitivities.	Chapters 18, 15.	Zoom tutorial available.

Week 8 - 06 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Infectious Diseases / Vaccines.	Chapter 17.	Zoom tutorial available.

Week 9 - 13 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Compulsory Residential School.		No Lectures. Written Assessment Feedback provided.

Week 10 - 20 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Post-Residential School Support.	Support Material provided.	No Lectures.

Week 11 - 27 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Unit Review.	Review Materials provided.	No Lectures. Journal article Due: Week 11 Wednesday (29 May 2019) 11:45 pm AEST. **Journal article** Due: Week 11 Wednesday (29 May 2019) 11:45 pm AEST

Week 12 - 03 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
Assessment and Revision.	Mock & Past Exam Papers provided.	No Lectures. Zoom tutorial available.

Review/Exam Week - 10 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 17 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

A new 8th edition of the prescribed text - *Kuby Immunology* - has recently come out in the US. However, as of the start of 2019 the Australian distributor could not guarantee delivery in time for term 1. Therefore, the information provided in the unit profile relates to the widely available 7th edition. The new version is a minor update only so both versions are suitable and it should be straightforward to match information between chapters.

Assessment Tasks

1 Outline of the innate and adaptive immune systems

Assessment Type
Written Assessment

Task Description
Students are to prepare a two (2) page outline that “Explains the terms 'innate' and 'adaptive' immunity and describes, by reference to an infectious disease of individual choosing, how the non-specific and specific arms of the immune system cooperate to effect an immune response”. Well written summaries will serve as valuable study tool and will ensure you have a solid understanding of the fundamental content presented in the first half of the term. Once graded, all outlines will be anonymously posted on the unit moodle page for other students to view and use as revision material.
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, for which the reference list is not included in the two page limit.

Assessment Due Date
Week 6 Tuesday (23 Apr 2019) 11:45 pm AEST

Return Date to Students
Week 9 Wednesday (15 May 2019)

Weighting
25%

Assessment Criteria
Your assessment will be marked on the following criteria:

- Relevance to the learning outcome - Does the material "fit" within the guidelines of the learning outcome? Does the summary cover all aspects relating to the selected topic? 10 marks
- Readability and accessibility of the material - Is the content at an appropriate level for the class to benefit from (not too simple nor to complex)? 5 marks
- Structure and quality of the assignment - Does it have a well-defined introduction, body and conclusion? Is it an appropriate length (not excessively over nor under the page limit)? Language

skills (grammar, spelling and sentence structure) and innovation will also be assessed. 5 marks
- References - A reference list and appropriate in-text referencing should be included. Note the reference list is not to be included in the page limit. The quality of material(s) used will be considered. It is anticipated that no less than 3 peer review journal articles will be used when preparing this report. 5 marks

T**otal 25 marks**

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- List the major cells and tissues of the immune system and state their function in the immune response.
- Explain, using examples, the processes of self / non-self-discrimination and disorders that arise as a result of dysfunction in self/non-self-recognition (autoimmunity).
- Define, using examples, the terms 'innate' and 'specific' immunity and describe how the non-specific and specific arms of the immune system work together to effect an immune response.
- Describe, using examples, the structure and function of antigen recognition molecules.
- Define and give examples of the effects of immune 'dysfunction' such as hypersensitivity and immunodeficiency.
- Outline the host responses to transplantation and be able to define xenotransplantation and discuss advantages and disadvantages of this process.
- Describe, 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 Journal article

Assessment Type
Practical Assessment

Task Description
Using the data generated from the ELISA and Western blot experiments performed at the residential school, students are to write up the results in the format of a scientific paper. The presentation and formatting should adhere to the "instructions for authors" (also referred to as "information for authors" or "author info") guidelines set out by the *Journal of Immunology*. This document can be downloaded from the journal's webpage.

Assessment Due Date
Week 11 Wednesday (29 May 2019) 11:45 pm AEST

Return Date to Students
Week 12 Friday (7 June 2019)

Weighting
25%

Assessment Criteria
The formatting and presentation of your assessment piece with be marked against the "instructions for authors" guidelines that are established by the *Journal of Immunology*, along with the following:

- Title, Abstract and Keywords - 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*. 4 marks
- Introduction - The introduction should orientate the reader with a brief summary of background knowledge surrounding the experiments and also outline the aims and hypothesis. 10 marks
- Methods - A brief outline of the method performed must be incorporated. 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 laboratory manual. 8 marks
- Results - The results should be clear and analyzed where appropriate. Graphs, tables figures should be labelled and have appropriate headings. 8 marks
- 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. 10 marks
- References - You should use appropriate support material(s) to justify the position taken in 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 review journal articles will be used when preparing this report. 5 marks
- Structure and quality of the assignment - Does the submission adhere to the format / presentation accepted by the *Journal of Immunology* as outlined in "instructions for authors"? Language skills (grammar, spelling and sentence structure) and innovation will also be assessed. 5 marks

Total 50 marks

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- List the major cells and tissues of the immune system and state their function in the immune response.
- Describe, using examples, the structure and function of antigen recognition molecules.
- Describe, 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
- 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).

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