



BMSC13003 *Medical Microbiology 2*

Term 2 - 2023

Profile information current as at 06/05/2024 12:06 am

All details in this unit profile for BMSC13003 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 identify and discuss the clinical significance of viruses, prions, fungi and parasites causing human disease. You will investigate the morphological characteristics, epidemiology, laboratory identification of these microorganisms and will be able to debate causes of mycological, parasitic and viral infectious diseases. You will discuss the life cycle of important parasites and their relevance to disease control. You will be able to interpret basic serological tests for the detection of human pathogenic viruses.

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: MBIO19012 Microbiology AND BIOL12106 Molecular Biology OR BMSC12012 Molecular Cell Biology

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 - 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).

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: 30%

2. **Practical Assessment**

Weighting: Pass/Fail

3. **Group Work**

Weighting: 20%

4. **Oral 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

Feedback

Students felt that sufficient time was allowed in the residential school for digestion of the material.

Recommendation

Any changes to the residential school will maintain a similar structure.

Feedback from Student feedback

Feedback

Students felt the unit was well organised and structured.

Recommendation

The unit structure has recently been updated to make it easier for students to follow the study materials and to understand the linkages between the topics covered. The current structure will be maintained.

Feedback from Self reflection

Feedback

The virology component of the residential school could be enhanced further to incorporate commonly used immunoassays.

Recommendation

Enzyme-linked immunosorbent assays will be added to the virology component of the residential school. The assays are commonly used and illustrate many of the principles that underlie other immunoassays (e.g., rapid antigen testing).

Unit Learning Outcomes

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

1. Discuss the clinical significance and laboratory detection of the principal viral/prion, fungal and parasitic pathogens of each of the human body systems
2. Appraise the use of molecular, histological and culture-based techniques for identifying viruses/prions, fungi and parasites causing human disease
3. Use practical skills to identify pathogenic viruses, fungi and parasites
4. Evaluate and interpret different testing methods used in the detection and monitoring of infectious diseases caused by viruses/prions, fungi and parasites
5. Apply appropriate quality control processes in the practice of virology, mycology and parasitology.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Practical Assessment - 0%	•		•	•	•
2 - Group Work - 20%		•		•	
3 - Written Assessment - 30%	•	•		•	
4 - Oral Examination - 50%	•	•			

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					

Textbooks and Resources

Textbooks

BMSC13003

Prescribed

Bailey and Scott's Diagnostic Microbiology

Edition: 15th (2022)

Authors: Patricia M Tile

Elsevier

St Louis , Missouri , USA

ISBN: 9780323681056

Binding: Hardcover

[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

William Deasy Unit Coordinator

w.deasy@cqu.edu.au

Jalal Jazayeri Unit Coordinator

j.jazayeri@cqu.edu.au

Schedule

Week 1 - 10 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Host Parasite interactions	Bailey and Scott's Diagnostic Microbiology Chapters 1, 2 and 10 (15th Edition)	Rockhampton Lecture and zoom tutorial Introduction to the subject content, learning materials and assessments

Week 2 - 17 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Viruses and anti viral chemotherapy	Bailey and Scott's Diagnostic Microbiology Chapters 64, 65, 66 (15th Edition)	Rockhampton lecture and zoom tutorial on week 1 content

Week 3 - 24 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Mycology and Anti Fungal Chemotherapy	Bailey and Scott's Diagnostic Microbiology Chapter 58-63 (15th Edition)	Rockhampton lecture and zoom tutorial on week 2 content

Week 4 - 31 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Parasites and anti Parasitic therapy	Bailey and Scott's Diagnostic Microbiology Chapters 46-57 (15th Edition)	Rockhampton lecture and zoom tutorial on week 3 content

Week 5 - 07 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Respiratory Tract Infections	Bailey and Scott's Diagnostic Microbiology Chapters 68 and 69 (15th Edition)	Rockhampton lecture and zoom tutorial on week 4 content

Vacation Week - 14 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Independent study week		

Week 6 - 21 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Sexually Transmitted Infections (STIs)	Bailey and Scott's Diagnostic Microbiology Chapters 73 (15th Edition)	Rockhampton lecture and zoom tutorial on week 5 content

Week 7 - 28 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Obstetric and Gynaecological infections	Bailey and Scott's Diagnostic Microbiology Chapters 72&73 (15th Edition)	Rockhampton lecture and zoom tutorial on week 6 content

Week 8 - 04 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Infections of the Central Nervous System	Bailey and Scott's Diagnostic Microbiology Chapter 70 (15th Edition)	Rockhampton lecture and zoom tutorial on week 7 content Written Assessment Due: Week 8 Monday (4 Sept 2023) 5:00 pm AEST

Week 9 - 11 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Gastrointestinal Tract Infections	Bailey and Scott's Diagnostic Microbiology Chapter 74 (15th edition)	Rockhampton lecture and zoom tutorial on week 8 content

Week 10 - 18 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Infections of Skin and Soft Tissue	Bailey and Scott's Diagnostic Microbiology Chapter 75 (15th Edition)	Compulsory Residential School 22/09/2023 to 24/09/2023, Rockhampton Campus Rockhampton lecture and zoom tutorial on week 9 content Residential School Assessment Due: Week 10 Monday (18 Sept 2023) 11:45 pm AEST Group poster presentation Due: Week 10 Friday (22 Sept 2023) 11:45 pm AEST

Week 11 - 25 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Vector Borne Infections and Zoonoses	Bailey and Scott's Diagnostic Microbiology (15th Edition) Chapters 57, 65, 67	Rockhampton lecture and zoom tutorial on week 10 content

Week 12 - 02 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic
Revision		Zoom tutorial

Review/Exam Week - 09 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic
Revision	Bailey and Scott's Diagnostic Microbiology (15th Edition) All Chapters listed	Oral Assessment Due: Review/Exam Week Monday (9 Oct 2023) 11:45 pm AEST

Exam Week - 16 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

Your unit coordinator for BMSC13003 is Dr Will Deasy. You can contact me using the forum on the unit's Moodle site or alternatively through email (w.deasy@cqu.edu.au) or on 07 4930 6365. The forum for this unit is continuously monitored during business hours and you can expect a response within 24 hours of posting your question.

Assessment Tasks

1 Written Assessment

Assessment Type

Written Assessment

Task Description

For this assessment, you are required to prepare a 2500 word essay that compares and contrasts two different pathogens that affect the same organ system. For example, you may select a virus and a fungi that infect the respiratory system, or a fungus and a parasite that infects the gastrointestinal tract.

You will need to provide introductory background, including pathogenesis for each organism and then compare and contrast current molecular and diagnostic techniques. You must include at least one molecular, serology-based and microscope-based test of each organism. A minimum of 16 scientific journal article must be used within your assessment

Assessment Due Date

Week 8 Monday (4 Sept 2023) 5:00 pm AEST

Assessment to be submitted via the assessment dropbox in Moodle

Return Date to Students

Week 10 Friday (22 Sept 2023)

Feedback will be available through the Turnitin feedback studio in Moodle

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

The assessment will be evaluated according to a detailed marking rubric available on the unit Moodle site, A total maximum mark of 100 is available for this assessment and a brief overview of the assessment criteria are as follows

Introduction (15 marks): Describe the transmission of the two chosen pathogens and spectrum of disease caused in the target tissue or organ including pathogenicity/virulence factors.

Diagnostic Laboratory assays (60 marks): In this section you must describe 3 separate laboratory tests for each of the two pathogens and this must include a Molecular based test (2 x 10 marks), a Serology based Test (2 x 10 marks) and a microscopy based test (2 x 10 marks). If novel tests are available then you may substitute them for one of the prescribed testing types.

Treatment (15 marks): In this section you must describe current treatment strategies for each of the two pathogens with reference to efficacy, emergence of resistance and side effects.

References (10 marks): Appropriate use of references and formatting of the reference list.

Weighting: 30%

Referencing Style

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

Submission

Online

Submission Instructions

Assessment to be submitted via the assessment dropbox in Moodle

Learning Outcomes Assessed

- Discuss the clinical significance and laboratory detection of the principal viral/prion, fungal and parasitic pathogens of each of the human body systems
- Appraise the use of molecular, histological and culture-based techniques for identifying viruses/prions, fungi and parasites causing human disease
- Evaluate and interpret different testing methods used in the detection and monitoring of infectious diseases caused by viruses/prions, fungi and parasites

2 Residential School Assessment

Assessment Type

Practical Assessment

Task Description

The laboratory practical exercise is an opportunity to learn and perform clinical diagnostic procedures in Virology, Mycology and Parasitology and compliment the theoretical knowledge of diagnostic microbiology. The residential school will provide valuable practical experience in techniques currently performed in diagnostic clinical microbiology laboratories.

The laboratory practical assessment will comprise of laboratory based exercises which will be completed during the Residential School period. The exercises will be described in the subject laboratory manual and will involve completion of laboratory exercises, calculation and presentation of results. A detailed rubric of assessment criteria for laboratory manual will be available on the unit Moodle site

Assessment Due Date

Week 10 Monday (18 Sept 2023) 11:45 pm AEST

Your performance will be assessed during the residential school .

Return Date to Students

Week 11 Friday (29 Sept 2023)

Your grade will be communicated to you within a week of the residential school finishing via Moodle.

Weighting

Pass/Fail

Assessment Criteria

You will be assessed on your competency while carrying out practical tasks during the residential school. This assessment is Pass/fail.

Referencing Style

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

Submission

No submission method provided.

Submission Instructions

Practical competency will be assessed during the residential school

Learning Outcomes Assessed

- Discuss the clinical significance and laboratory detection of the principal viral/prion, fungal and parasitic

- pathogens of each of the human body systems
- Use practical skills to identify pathogenic viruses, fungi and parasites
- Evaluate and interpret different testing methods used in the detection and monitoring of infectious diseases caused by viruses/prions, fungi and parasites
- Apply appropriate quality control processes in the practice of virology, mycology and parasitology.

3 Group poster presentation

Assessment Type

Group Work

Task Description

Working in groups of three (3) members you will produce a scientific poster that compares and contrasts two pathogens which infect a similar tissue or organ system. Your focus will be on laboratory techniques used for their detection together with a description of transmission, pathogenesis and treatment of these pathogens. This assessment builds on the work you carried out for your written work from assessment 1.

Assessment Due Date

Week 10 Friday (22 Sept 2023) 11:45 pm AEST

Posters will be presented at the Residential School on Day 3

Return Date to Students

Week 11 Monday (25 Sept 2023)

You will be assessed on the day and marks will be uploaded immediately after the Residential school

Weighting

20%

Assessment Criteria

Your poster will be assessed on a number of criteria including:

- Design and appearance
- Information content relating to Transmission, pathogenicity, virulence factors, etc.
- Contribution to the group effort
- Ability to answer questions relating to your poster.

Referencing Style

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

Submission

Group

Submission Instructions

Submission will be via assessment dropbox on Moodle

Learning Outcomes Assessed

- Appraise the use of molecular, histological and culture-based techniques for identifying viruses/prions, fungi and parasites causing human disease
- Evaluate and interpret different testing methods used in the detection and monitoring of infectious diseases caused by viruses/prions, fungi and parasites

4 Oral Assessment

Assessment Type

Oral Examination

Task Description

This assessment item is an oral examination which is comprised of two parts. You have the option to complete this face to face or via Zoom conferencing software. If you choose for the latter, it is a requirement that you have access to Zoom, a webcam and a microphone.

You will be required to answer:

Part A: 5 x short answer questions (to demonstrate memory recall). These questions will be worth 2 marks each = 10 marks; AND

Part B: 5 x longer answer questions (to demonstration interpretation of data/application). You will be presented with seven (7) questions and only need to choose only five (5). These questions will be worth 8 marks each = 40 marks. Presentation (10 marks as per Rubric)

Total Viva Voce is worth 60 marks.

Assessment Due Date

Review/Exam Week Monday (9 Oct 2023) 11:45 pm AEST

This will be held during the examination period; specific Viva Voce times to be negotiated with the Unit Coordinator during term.

Return Date to Students

Exam Week Monday (16 Oct 2023)

Marks will be released at certification of grades

Weighting

50%

Minimum mark or grade

50%

Assessment Criteria

Part A. This section relies on memory which is designed to contain short answer questions. Each of these questions will be worth two marks (5 questions x 2 marks = maximum of 10 marks)

Part B. This section relies on an interpretation and application of knowledge and contains longer questions. Each of these questions are worth 8 marks each with the breakdown of marks as follows.

Three key criteria will be marked in this assessment in addition to the above.

1. Relevance - The ability to deliver the correct answer(s) to the question in a comprehensive and succinct manner (worth 6/10 marks)

2. Coherence - The ability to logically sequence the response (worth 2/10 marks)

3. Overall organisation, expression and flow - Responses are well crafted and include a scientific/medical vocabulary. Responses are delivered in a confident manner using language targetted to a general audience. Responses are delivered with clear diction, appropriate volume and pace. (worth 2/10 marks)

Referencing Style

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

Submission

No submission method provided.

Submission Instructions

Presentation will be assessed live (in person or Online via Zoom) at a negotiated day/time.

Learning Outcomes Assessed

- Discuss the clinical significance and laboratory detection of the principal viral/prion, fungal and parasitic pathogens of each of the human body systems
- Appraise the use of molecular, histological and culture-based techniques for identifying viruses/prions, fungi and parasites causing human disease

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