MBIO12013 *Microbiology for Health Care*
Term 1 - 2017

Profile information current as at 12/10/2024 05:40 pm

All details in this unit profile for MBIO12013 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
This unit provides students with essential knowledge on the role of microorganisms and infection control within the context of health care. The unit will also cover host defences and the immune response, including the host-pathogen relationship and the mechanisms of microbial disease. Microbial epidemiology will be examined, with emphasis on worldwide discipline-specific examples.

Details
Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
Prereq: BMSC11002 Human Body Systems 2 or BIOH11005 Introductory Anatomy and Physiology or ALLH11004 Anatomy and Physiology for Health Professionals 2. Condition: Be enrolled in any of the following courses: CG95, CC30, CB77, CB29, CB66, CB70, CB86 or CQ23. This unit is incompatible with MBIO19012 Microbiology.
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 - 2017

- Brisbane
- Bundaberg
- Cairns
- Distance
- Mackay
- Rockhampton
- Sydney
- Townsville

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).

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. **Online Quiz(zes)**
Weighting: 20%
2. **Written Assessment**
Weighting: 30%
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 Moodle unit evaluation

Feedback
Students would like less lecture time / shorter lectures.

Recommendation
Because the lectures are live, it's not really feasible to give lectures shorter than one hour. I will look into reducing it to two lectures, though not at the expense of explaining all of the relevant material.

Action
Reducing the lecture times to 2h per week rather than 3h was not feasible with respect to covering the content in detail.

Feedback from Self-reflection + Moodle unit evaluation

Feedback
Practical and virtual lab set up on Moodle could be confusing.

Recommendation
I changed the assessment this year (practicals and virtual labs) to include another quiz, and rearranged that part of the Moodle site regarding these. This did not work too well, so I will find a better configuration for next year.

Action
The assessment presentation on Moodle was restructured to be more linear. There were no comments on it this year.

Feedback from Moodle unit evaluation

Feedback
Too much content in the unit.

Recommendation
There is a lot of content in this unit, mainly because the students in these courses have very little science knowledge so I need to start at basic principles before going into the more relevant content. I also give many examples to encompass all the discipline areas, which creates more 'content'.

Action
The lecture material was restructured to make it clearer to the students that the content is provided in several contexts for the different disciplines; it is not actually extra content.

Unit Learning Outcomes

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

1. Describe the relationship between form and function in the major groups of microorganisms.
2. Discuss the role of microorganisms in relation to human health, with particular reference to the normal microbiota and exogenous microorganisms.
3. Describe the mechanisms of microbial diseases, including host-microbe interactions and disease transmission.
4. Explain the fundamental principles of innate and adaptive (specific) immunity
5. Describe the major cells and tissues of the immune system and state their function in the immune response.
6. Apply the fundamental principles of microbial epidemiology to current issues relating to human health.
7. Interpret the principles of sterilisation, disinfection, and infection control in relation to the student’s discipline area.
8. Interpret the results of laboratory experiments in the context of the underlying microbiological principles.

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 - Online Quiz(zes) - 20%		•					•	•
2 - Written Assessment - 30%			•			•	•	
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 - Online Quiz(zes) - 20%						•				
2 - Written Assessment - 30%		•	•	•						
3 - Examination - 50%	•									

Textbooks and Resources

Textbooks

MBIO12013

Prescribed

Microbiology and Infection Control for Health Professionals
Edition: 6th (2015)
Authors: Gary Lee & Penny Bishop
Pearson Education Australia
Frenchs Forest , NSW , Australia
ISBN: 9781486019144
Binding: Hardcover

Additional Textbook Information
You will also require the Microbiology Kit, supplied to you by the Bookshop. More information will be available on the course Moodle site.

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

Sandrine Makiela Unit Coordinator
s.makiela@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Introduction, bacteria.	Lee & Bishop ch 1 & 3.	

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Bacteria and viruses.	Lee & Bishop ch 3 & 5.	

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Fungi, protozoans and parasites.	Lee & Bishop ch 6.	

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Microbial growth, replication and genetics.	Lee & Bishop ch 2-6.	
Week 5 - 03 Apr 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Immunity.	Lee & Bishop ch 9.	
Vacation Week - 10 Apr 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Week 6 - 17 Apr 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Principles of disease.	Lee & Bishop ch 7, 8 & 10.	Practicals and virtual laboratory: Part 1 upload of pictures and data due Tuesday 18th April, 5pm AEST.
Week 7 - 24 Apr 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Principles of disease.	Lee & Bishop ch 7, 8 & 10.	
Week 8 - 01 May 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
(other residential schools)		
Week 9 - 08 May 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Control of growth, infection control.	Lee & Bishop ch 11, 12.	Practicals and virtual laboratory: Part 1 Quiz 1 due Monday 8th May, 5pm AEST.
Week 10 - 15 May 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Common diseases.	Lee & Bishop ch 15-21.	
Week 11 - 22 May 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Common diseases.	Lee & Bishop ch 15-21.	**Case Study Analysis** Due: Week 11 Monday (22 May 2017) 9:00 am AEST
Week 12 - 29 May 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Issues in public health.	Lee & Bishop ch 13, 14.	Practicals and virtual laboratory: Part 2 Quizzes 2-4 due Monday 29th May, 5pm AEST.
Review/Exam Week - 05 Jun 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Exam Week - 12 Jun 2017		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Term Specific Information

For part 1 of your Practicals and Virtual Laboratory you will require a Microbiology Kit. These are available free from the CQUniversity Bookshop. If you are enrolled as an on-campus student you will need to pick one up from your campus (location details given on Moodle site). Distance students will have one sent to your address as recorded on MyCentre. If you need it sent to a different address, please contact the unit coordinator ASAP. Your kit should arrive by the end of week 2. If not, please contact the CQUniversity Bookshop via email (bookshop-customerservice@cqu.edu.au) to follow up on your kit.

Assessment Tasks

1 Practicals and Virtual Laboratory

Assessment Type
Online Quiz(zes)

Task Description
Students will be required to complete practical exercises, both in person at home (Part 1) and virtually (Part 2), and complete four online quizzes.
For Part 1, students will need to obtain the Microbiology Kit (see Term Specific Information section) and perform a series of tasks (5 in total). Details of these tasks, including instructional videos, will be available on the Moodle site. For each task, students will be required to upload pictures of their work and upload their data into Moodle. The unit coordinator will collate the class data, and students will then do an online quiz based on the class data (Quiz 1). The quiz will open on the Monday of Week 7.
For Part 2, students will carry out a series of virtual laboratory exercises on the Moodle site. Assessment of this part will be via 3 online quizzes (Quizzes 2-4). The quizzes consist of multiple choice questions and will open on the Monday of Week 9.

Number of Quizzes
4

Frequency of Quizzes

Assessment Due Date

Part 1 - upload of pictures and data on the Tuesday of week 6 at 5pm AEST, Quiz 1 due Monday of week 9 at 5pm AEST.
Part 2 - Quizzes 2-4 due on the Monday of week 12 at 5pm AEST.

Return Date to Students

Part 1 (pictures and data) at the beginning of week 8, Part 1 & 2 quizzes: Moodle should return your results within half an hour.

Weighting
20%

Minimum mark or grade
50%

Assessment Criteria
This assessment piece is worth 20% of the total course marks, with 10% allocated to Part 1 and 10% to Part 2.
Part 1 consists of 5 separate tasks and a quiz. For each task, students must upload one picture of their work and the required data. Marks will be awarded for the reporting of valid data and completion of the task (1% each for a total of 5%). The quiz on the class data is worth the other 5%.
Part 2 is assessed via online quiz questions (10%), and the final mark is the total of the three quiz marks.

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Online

assessmentOutcome

- Discuss the role of microorganisms in relation to human health, with particular reference to the normal

microbiota and exogenous microorganisms.
- Interpret the principles of sterilisation, disinfection, and infection control in relation to the student's discipline area.
- Interpret the results of laboratory experiments in the context of the underlying microbiological principles.

assessmentGradAttribute

- Information Technology Competence

2 Case Study Analysis

Assessment Type
Written Assessment

Task Description
Students will be provided with video footage of a workplace situation relevant to their future workplace. There will be videos in several discipline areas for students to choose from (available from the unit Moodle site) and students will each need to choose one video only for this assessment. The videos will depict typical workplace occurrences but with flaws in infection control procedures. Using Moodle forums, chat rooms, or other means, students may discuss the footage with other students and identify the flaws in infection control procedures.
The case study analysis (report) will be done individually. Students will be limited to a maximum of 5 incidents in their reports. Since there will be more than 5 incidents on the videos, students will be asked to report on those which they believe are the most important, and will be asked to justify their decision. The report will need to discuss how each incident may transmit and cause disease, including the potential host response, and reflect on the infection control measures needed to rectify the situation. This will need to be substantiated with evidence from the literature.
After the 5 incidents, students will need to critically evaluate information from the literature on the spread of infection in their future workplace. For example, you would include any reported disease outbreaks and your future workplace's current infection control policies and procedures. This information, as well as the infection control measures suggested from the 5 incidents, will then be used to formulate a final recommendation for the report.
As this assessment will commence at the beginning of term, students will be encouraged to revisit the video as more course material is covered in lectures. Detailed guidelines for this task will be available from the unit Moodle site.
Suggested length: 2000 - 2500 words.

Assessment Due Date
Week 11 Monday (22 May 2017) 9:00 am AEST

Return Date to Students
Monday (5 June 2017)

Weighting
30%

Minimum mark or grade
40%

Assessment Criteria
The complete assessment marking rubrics will be available on the Moodle site and will be based on the following criteria:

- Identification of problems (20%)
- Discussion of disease potential (10%)
- Recommended infection control solution and relevance to future workplace (30%)
- Application of critical analysis (10%)
- Presentation (10%)
- Clarity of expression (10%)
- Referencing (10%)

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Online

assessmentOutcome

- Describe the mechanisms of microbial diseases, including host-microbe interactions and disease transmission.
- Apply the fundamental principles of microbial epidemiology to current issues relating to human health.
- Interpret the principles of sterilisation, disinfection, and infection control in relation to the student's discipline

area.

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- Problem Solving
- Critical Thinking
- Information Literacy

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
50%

Length
120 minutes

Minimum mark or grade
50%

Exam Conditions
Closed Book.

Materials
No calculators permitted
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

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assessmentOutcome

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assessmentGradAttribute

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