COURSE OUTLINE

BIM206 Microbiology in Human Health and Disease

School: School of Health - Biomedicine

2027 | Trimester 1

UniSC Sunshine Coast | BLENDED LEARNING | Most of your course is on campus but you may be able to do some components of this course online.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course explores microorganisms that cause disease in humans. You will study microbial diversity, classification, genetics, and metabolism, and investigate their roles in infection, diagnosis, treatment and public health. You will also develop skills in laboratory work, analysing biological data and scientific communication. This course builds foundational knowledge and skills for understanding the biological basis of infectious diseases and provides a strong foundation for advanced studies in biomedical science and health-related fields.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Online learning materials with interactive modules and formative revision tasks	2hrs	Week 1	12 times
Tutorial/Workshop 1 – Weekly online workshop to engage with theory and its application, working through problems with the guidance of academics.	1hr	Week 1	12 times
Tutorial/Workshop 2 – Interactive small class workshops with skill development and collaborative learning	2hrs	Week 1	6 times
Laboratory 1 – Science laboratory (wet lab) for collaborative learning and practical skill development. The week 12 session will be dedicated to presentation of assessment.	3hrs	Week 2	6 times

1.3. Course Topics

- Introduction to microbiology and classification of mircroorganisms
- Microbial symbiosis and human microbiota
- Microbial pathogenesis and host responses to infectious disease
- Antimicrobial therapy and diagnosis of infectious disease
- Introduction to epidemiology and public health
- Infectious diseases, including communicable, vector-borne, soil-borne, food and water-borne, zoonotic and emerging disease

2. What level is this course?

200 Level (Developing)

Building on and expanding the scope of introductory knowledge and skills, developing breadth or depth and applying knowledge and skills in a new context. May require pre-requisites where discipline specific introductory knowledge or skills is necessary. Normally, undertaken in the second or third full-time year of an undergraduate programs.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Demonstrate foundational knowledge of microbial diversity, classification, and physiology, and explain their relevance to human health and disease.	Knowledgeable
2	Analyse microbial genetics, metabolism, and symbiotic relationships to understand their roles in pathogenesis, resistance, and host interactions.	Knowledgeable
3	Apply diagnostic, epidemiological, and laboratory techniques to investigate infectious diseases and interpret clinical and public health data.	Creative and critical thinker Problem solving
4	Evaluate host immune responses and antimicrobial strategies, including vaccines, immunotherapies, and drug treatments, in the context of disease prevention and management.	Knowledgeable
5	Work collaboratively to critically assess and communicate elements of emerging infectious diseases, utilising an integrated One Health approach.	Engaged Communication

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

BIO100 or LFS103 or enrolled in SC357

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

LFS261 or LFS262

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

This course will provide you with early feedback on your learning in the form of formative online quizzes and subsequent in class feedback on summative tasks from week 2 onwards.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Practical / Laboratory Skills, and Written Piece	Individual	25%	Task 1a <200 words per task Task 1b ~1000 words	Throughout teaching period (refer to Format)	Online Assignment Submission with plagiarism check
All	2	Artefact - Technical and Scientific	Group	35%	One A4 page infographic OR 5 minute podcast	Week 11	Online Assignment Submission with plagiarism check and in class
All	3	Examination - Centrally Scheduled	Individual	40%	2 hours.	Exam Period	Online Test (Quiz)

All - Assessment Task 1: Laboratory portfolio

GOAL:	To assess your understanding of key practical techniques related to microbiology. This includes application of practical techniques to case studies and a reflection on your progress in this skill development.
PRODUCT:	Practical / Laboratory Skills, and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	Task 1a (5%): In class worksheet/lab book completion, completed fortnightly Task 1b (20%): Written case-based lab report, including reflection, due Week 7.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Quality of data presentation, analysis and responses to questions related to laboratory practical activities — 1 2 3 4
GENERIC SKILLS:	Communication, Problem solving

All - Assessment Task 2: Outbreak response communication plan

GOAL:	Describe the characteristics and transmission of a newly emerged pathogen and develop a response plan for a simulated outbreak.
PRODUCT:	Artefact - Technical and Scientific
AUTHORSHIP STATEMENT:	
FORMAT:	Students select a disease outbreak scenario and their choice of assessment- infographic or podcast. Submit via Canvas in week 11, and presented to class in Week 12.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Accuracy and clarity of description of pathogen characteristics — 1 2 3 4 5
GENERIC SKILLS:	Communication, Problem solving, Information literacy

All - Assessment Task 3: End of Semester Examination

GOAL:	To demonstrate your understanding of key theoretical and practical concepts covered in this course.
PRODUCT:	Examination - Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	Exam consisting of multiple choice, short answer and mixed format questions. Completed via Canvas utilising secure lockdown browser.
CRITERIA:	

No.		Learning Outcome assessed
1	Demonstrates depth and breadth of knowledge of microbial diversity, classification, physiology and relevance to human health and disease.	1 2 4
2	Application of knowledge of microbiology to clinical and epidemiological scenarios.	2 3 4

GENERIC SKILLS:	

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Recommended	n/a	2021	BROCK BIOLOGY OF MICROORGANISMS, GLOBAL EDITION.	16th	n/a

8.2. Specific requirements

You must wear a lab coat, enclosed shoes, and safety glasses during laboratory classes. You must bring your own copy of the BIM206 course manual to class. A bound copy of the workbook will be available for purchase from the UniSC MyPrint Shop, or alternatively, you may download a PDF copy from the Canvas course site, print the manual and bind it yourself.

9. How are risks managed in this course?

Risk assessments have been performed for all laboratory classes and a moderate level of health and safety risk exists. Moderate risks are those associated with laboratory work such as working with chemicals and hazardous substances. You will be required to undertake laboratory induction training and it is also your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central