Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science and Sustainability

Unit Title: CLINICAL MICROBIOLOGY

Unit ID: SCMIC3003

Credit Points: 15.00

Prerequisite(s): (SCMIC2001 or SCMOL2001)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 010911

Description of the Unit:
Clinical Microbiology focuses on infectious diseases of the organ systems, summarising the aetiology, pathogenesis and laboratory identification of important viral, bacterial and eukaryotic pathogens. The epidemiology of infectious disease and strategies for disease control are highlighted. The mode of action of antimicrobial drugs, their role in treating infectious disease and the problems of drug resistance are discussed. Techniques for laboratory diagnosis of infectious disease, and safe handling of pathogens, are emphasised.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory						
Intermediate						

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Advanced			✔			

Learning Outcomes:

Knowledge:

K1. Describe the fundamental mechanisms of infectious diseases, including knowledge of bacterial, viral and eukaryotic parasite pathogenicity.

K2. Define the terms, concepts and descriptions used in infectious disease epidemiology.

K3. Outline the role of chemotherapy in the treatment of infectious disease; and have an appreciation for the public health significance of antimicrobial drug resistance.

K4. Recall the role of microorganisms in selected infectious diseases associated with the different organ systems.

K5. Recognise and understand the diverse techniques used in clinical microbiology diagnostic laboratories.

Skills:

S1. Demonstrate competence in laboratory procedures for handling and processing diagnostic specimens and pathogens.

S2. Apply a variety of routine microbiological diagnostic techniques for the identification and treatment of clinically significant bacteria and fungi.

Application of knowledge and skills:

A1. Choose the appropriate course of action in the diagnosis of infectious diseases from patient samples.

A2. Apply a variety of routine microbiological diagnostic techniques for the identification and treatment of clinically significant bacteria and fungi.

Unit Content:

Topics may include:

- Deep understanding of organism taxonomy and how it impacts on infectious disease and treatment
- Infectious disease epidemiology
- Culture media and diagnostic tests for the identification of microorganisms causing disease
- Antibiotic susceptibility testing and antimicrobial mode of action
- Procedures for sample collection, transport and processing of different specimen types for the investigation of blood, central nervous system, urinary, genital, respiratory, intestinal, skin and wound infections
- Infection control
- Laboratory Investigations of viral, prokaryotic and eukaryotic infectious agents

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are be embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all must be directly assessed in each Course.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	**Assessment task (AT#)**
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, inter-act and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: • Using effective verbal and non-verbal communication • Listening for meaning and influencing via active listening • Showing empathy for others • Negotiating and demonstrating conflict resolution skills • Working respectfully in cross-cultural and diverse teams.	K2,K3,K4	AT1, AT2, AT3,AT4
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: • Creating a collegial environment • Showing self -awareness and the ability to self-reflect • Inspiring and convincing others • Making informed decisions • Displaying initiative	S2	AT3
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: • Reflecting critically • Evaluating ideas, concepts and information • Considering alternative perspectives to refine ideas • Challenging conventional thinking to clarify concepts • Forming creative solutions in problem solving.	K1,K3, A1	AT1, AT3

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: • Finding, evaluating, managing, curating, organising and sharing digital information • Collating, managing, accessing and using digital data securely • Receiving and responding to messages in a range of digital media • Contributing actively to digital teams and working groups • Participating in and benefiting from digital learning opportunities.	K1-K5, S1-S2	AT1,AT2,AT3,AT4
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: • Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts • Committing to social responsibility as a professional and a citizen • Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Embracing lifelong, life-wide and life-deep learning to be open to diverse others • Implementing required actions to foster sustainability in their professional and personal life.	Not applicable	Not applicable

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K4, K5; A1	Interpretation of case based clinical microbiology laboratory data	Individual assignment	15-25%
K1, K2, K4, K5	Demonstration of knowledge and understanding of disease pathology, diagnostic microbiology and clinical microbiology.	Individual invigilated test	15-25%
K5; S1, S2; A1	Performance of basic laboratory procedures and techniques and interpretation of data.	Participation and assessment of written laboratory report.	20 - 30%
K1 - K5; A1, A2	Summative assessment of learning	Final online test	30 - 40%

Adopted Reference Style:

Australian Harvard

Refer to the library website for more information

Fed Cite - referencing tool