COURSE OUTLINE

MLS300 Clinical Microbiology II

School: School of Health - Biomedicine

2026 | 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 usc.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

Clinical microbiology is the study and identification of microorganisms which cause infections and disease in humans. This course builds on the skills developed in MLS200 by providing the theoretical knowledge and practical skills required to work in Clinical Microbiology laboratories. During the course students will acquire the skills to process clinical specimens by microscopy, organism culture and antibiotic sensitivity testing. Skills to undertake molecular diagnostic techniques for microbes will be acquired as well as the skills for recording clinical laboratory results and writing clinical laboratory reports.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Fully independent asynchronous learning	2hrs	Week 1	12 times
Tutorial/Workshop 1 – There will be six tutorial classes that will take place on campus	2hrs	Week 1	6 times
Laboratory 1 – On-campus laboratory practicals to develop skills and gain competency in microbiological laboratory techniques and working in a PC2 environment. The MLS300 labs will take place on week 2 to 11. Week 12 will be the practical exam.	3hrs	Week 2	11 times

1.3. Course Topics

- MLS300 is designed to inform and teach students how a Microbiology laboratory is run on a day to day basis. Pathology labs utilise a bench system based on the specimen type to assign specific workflows. Through industry consultation this advanced clinical microbiology unit complements these different benches with teaching material focused on the processes students will encounter within industry positions.
    - **Faecal Samples Analysis I: Bacteria: Microscopy, culture, sensitivity, reporting and QC.**
    - **Faecal Samples Analysis II: Real-time PCR (CIT), GIT viruses, parasites mycology.**
    - **Wound Samples Analysis I: Bacteria (including anaerobes): Microscopy, culture, sensitivity, reporting and QC.**
    - **Wounds Samples Analysis II: Real-time PCR, viruses, parasites, mycology.**
    - **Respiratory Samples Analysis I: Mycology: Microscopy, culture, sensitivity, reporting and QC.**
    - **Respiratory Samples Analysis II: Bacteria: Microscopy, culture, sensitivity, reporting and QC.**
    - **Respiratory Samples Analysis III: Real-time PCR (Resp viruses and bacteria).**
    - **Genital Samples Analysis I: Bacteria: Microscopy, culture, sensitivity, reporting and QC, Real-time PCR (adult themes)**
    - **Genital Samples Analysis II: Real-time PCR, viruses, parasites, mycology (adult themes).**
    - **Genital Samples Analysis III: Real-time PCR STI screening (adult themes).**
    - **CSF Samples Analysis I: Microscopy, culture, sensitivity, reporting and QC, Real-time PCR, Cytology.**
    - **Blood/Blood Culture Sample Analysis I: Microscopy, culture, sensitivity, reporting and QC, Real-time PCR, Serology**

1.4. Mature Content

Sex/Sexual references, Adult themes

2. What level is this course?

300 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth full-time study year of an undergraduate program.

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 MAPPING Completing these tasks successfully will contribute to you becoming...	PROFESSIONAL STANDARD MAPPING * Australian Institute of Medical and Clinical Scientists
1 Apply advanced diagnostic techniques to identify pathogenic microorganisms from clinical samples in a diagnostic context.	Creative and critical thinker Applying technologies	1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.3.7, 1.5.1, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.6.5, 1.6.6, 1.6.7, 1.6.8, 1.3, 1.5, 1.6, 2.1.1, 2.1.2, 2.2.1, 2.3.1, 2.3.2, 2.1, 2.2, 2.3, 3, 3.1.1, 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.6, 3.2.7, 3.3.1, 3.3.2, 3.3.3, 3.1, 3.2, 3.3
2 Report microbiological findings effectively in context of clinical notes provided to support individual patient care decisions.	Knowledgeable Communication Problem solving	1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.6.5, 1.6.6, 1.6.7, 1.6.8, 1.6, 2, 2.1.1, 2.1.2, 2.2.1, 2.3.1, 2.3.2, 2.1, 2.2, 2.3, 3.1.1, 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.6, 3.2.7, 3.3.1, 3.3.2, 3.3.3, 7.2.1, 7.2.2
3 Evaluate emerging trends in clinical microbiology to improve laboratory practices and infection control.	Creative and critical thinker Empowered Applying technologies	5.2, 5.3, 5.4, 6.2.1, 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.3.1, 6.3.2, 6.3.3, 6.2, 6.3, 7.4.1, 7.4.2, 7.4.3, 7.4, 8.1.1, 8.1.2, 8.1.3, 8.2.1, 8.2.2, 8.1, 8.2
4 Adhere to professional and ethical standards in all laboratory practices, following the AIMS Competency-based Standards.	Ethical Organisation	5, 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.1.6, 5.1.7, 5.2.1, 5.2.2, 5.2.3, 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.4.1, 5.4.2, 5.4.3, 5.4.4, 5.4.5, 5.1, 5.2, 5.3, 5.4, 6.2.1, 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.3.1, 6.3.2, 6.3.3, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.4, 6.5.5, 6.5.6, 6.5.7, 6.2, 6.3, 6.4, 6.5, 7.1.1, 7.1.2, 7.2.1, 7.2.2, 7.3.1, 7.3.2, 7.3.3, 7.3.4, 7.3.5, 7.1, 7.2, 7.3

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN INSTITUTE OF MEDICAL AND CLINICAL SCIENTISTS	
1.3.1	Evaluate specimen suitability prior to analysis: Correct and satisfactory labelling and matching of subject details is established.
1.3.2	Evaluate specimen suitability prior to analysis: Confirmation is made that the nature of the specimen is consistent with requested analysis.
1.3.3	Evaluate specimen suitability prior to analysis: Specimen is received in correct container (i.e., containing correct anticoagulant or fixative if appropriate) and in accordance with collection and delivery protocols.
1.3.4	Evaluate specimen suitability prior to analysis: Quality of specimen meets defined acceptability criteria.
1.3.5	Evaluate specimen suitability prior to analysis: Appropriate action, as per defined criteria, is taken upon receipt of an unsuitable specimen.
1.3.6	Evaluate specimen suitability prior to analysis: Satisfactory specimens are appropriately registered into the laboratory information system.
1.3.7	Evaluate specimen suitability prior to analysis: Specimens are prepared for analysis.
1.5.1	Process specimen utilising appropriate techniques: Appropriate test procedure is selected for the analysis required, the nature of available specimen(s) and the urgency of the request.
1.5.2	Process specimen utilising appropriate techniques: Appropriate standards and controls are selected and prepared and testing is organised in accordance with the analytical procedures/protocol to be undertaken, the urgency, and the clinical condition being investigated.
1.5.3	Process specimen utilising appropriate techniques: Appropriate reagents are selected and prepared to ensure maintenance of quality and suitability for use.

CODE	COMPETENCY
1.5.4	Process specimen utilising appropriate techniques: Processes are performed in accordance with prescribed methods, quality procedures and accepted safe working practices.
1.5.5	Process specimen utilising appropriate techniques: Appropriate means are used to ensure outstanding specimens are followed up.
1.6.1	Read and validate results - Equipment based testing: Laboratory instrumentation is operated within established procedures (including quality control, troubleshooting instrument problems and performing preventative and corrective maintenance).
1.6.2	Read and validate results - Equipment based testing: Validity of test results is confirmed in terms of protocols (including standards, quality control data and performance of analytical systems) and problems are identified and remedied or notified to the appropriate staff member.
1.6.3	Read and validate results - Equipment based testing: Results are calculated from data outputs according to documented procedures.
1.6.4	Read and validate results - Equipment based testing: Test data, calculations, results and acceptance/rejection of analytical procedure outcome are documented.
1.6.5	Read and validate results - Equipment based testing: Storage/disposal of reagents, standards, controls and specimens is in accordance with regulations and guidelines where applicable.
1.6.6	Read and validate results - Observation based testing: Available clinical information is reviewed.
1.6.7	Read and validate results - Observation based testing: Critical observations are made and recorded.
1.6.8	Read and validate results - Observation based testing: Observations and evaluations are summarised, using the appropriate knowledge base, and summary is recorded according to regulatory protocols.
1.3	Collection, preparation and analysis of clinical material: Evaluate specimen suitability prior to analysis
1.5	Collection, preparation and analysis of clinical material: Process specimen utilising appropriate techniques
1.6	Collection, preparation and analysis of clinical material: Read and validate results
2.1.1	Assess validity of data/results against possible range of outcomes: Initial observation and limited interpretation for significance of the raw data/results is undertaken.
2.1.2	Assess validity of data/results against possible range of outcomes: Implausible results, results inconsistent with clinical information or expected outcomes based on other test results or those outside defined criteria are investigated further using defined troubleshooting strategies.
2.2.1	Validation of results: Possible causes for implausible or inconsistent results or outcomes are determined.
2.3.1	Make decisions about reporting results, repeating procedures, consulting senior staff and carrying out further tests within established guidelines: Appropriate decisions about repeating procedures, carrying out further tests within established guidelines, rejection or reporting of results are made. Senior staff are appropriately consulted.
2.3.2	Make decisions about reporting results, repeating procedures, consulting senior staff and carrying out further tests within established guidelines: Rejected results are dealt with appropriately.
2	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information
2.1	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information: Assess validity of data/results against possible range of outcomes
2.2	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information: Validation of results
2.3	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information: Make decisions about reporting results, repeating procedures, consulting senior staff and carrying out further tests within established guidelines
3	Interpretation, reporting and issuing of laboratory results
3.1.1	Verify report(s) with sample identification: Sample identification is traceable from patient identification to reporting.
3.2.1	Use the administrative systems in place to communicate the results: Results are communicated in a timely manner and according to laboratory protocols.

CODE	COMPETENCY
3.2.2	Use the administrative systems in place to communicate the results: Confidentiality of results is assured at all times.
3.2.3	Use the administrative systems in place to communicate the results: Results are only given to authorised and identified persons using verification and documentation procedures according to laboratory protocols, regardless of mode of delivery (e.g., telephone, email, fax or other electronic means).
3.2.4	Use the administrative systems in place to communicate the results: Communication of results is recorded by appropriate means.
3.2.5	Use the administrative systems in place to communicate the results: Overdue results are identified and investigated.
3.2.6	Use the administrative systems in place to communicate the results: Advice or comment pertaining to the test procedure or outcome is reported in a clear and unambiguous manner.
3.2.7	Use the administrative systems in place to communicate the results: Relevant reference intervals and, if appropriate, clinical decision limits are included in reports as per established protocols.
3.3.1	Ensure that results with important diagnostic or treatment implications are communicated as per established protocols: Significant results, as defined by the laboratory, are identified
3.3.2	Ensure that results with important diagnostic or treatment implications are communicated as per established protocols: Results are interpreted in the light of clinical information provided and knowledge of the test(s) and limitations.
3.3.3	Ensure that results with important diagnostic or treatment implications are communicated as per established protocols: Urgent or significant results are communicated to appropriate personnel so they understand the significance, purpose of the communication and action required. This action is documented.
3.1	Interpretation, reporting and issuing of laboratory results: Verify report(s) with sample identification
3.2	Interpretation, reporting and issuing of laboratory results: Use the administrative systems in place to communicate the results
3.3	Interpretation, reporting and issuing of laboratory results: Ensure that results with important diagnostic or treatment implications are communicated as per established protocols
5	Maintenance and promotion of safe working practices
5.1.1	Prepare and store reagents and solutions: Reagents and solutions are prepared using established protocols.
5.1.2	Prepare and store reagents and solutions: Reagents are labelled according to legislative guidelines.
5.1.3	Prepare and store reagents and solutions: An up-to-date inventory of hazardous reagents, Material Safety Data Sheets and supplies is maintained.
5.1.4	Prepare and store reagents and solutions: Reagents are stored in the correct facilities and under the correct conditions.
5.1.5	Prepare and store reagents and solutions: Reagents are handled as required by regulatory guidelines.
5.1.6	Prepare and store reagents and solutions: Expired reagents and solutions are disposed of according to safety precautions.
5.1.7	Prepare and store reagents and solutions: Reagent inventory is periodically reviewed and hazardous reagents no longer in use are disposed of in a timely manner.
5.2.1	Identify and respond to unsafe work practices and breaches of regulations: All safe work practices (as laid down by legislative guidelines) are understood and promoted.
5.2.2	Identify and respond to unsafe work practices and breaches of regulations: Methods/protocols do not incorporate unsafe work practice.
5.2.3	Identify and respond to unsafe work practices and breaches of regulations: Upon identification or suspicion, unsafe or improper practices are notified to senior staff with suggestions for improvement where appropriate.
5.3.1	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: The condition of biological, toxic and radioactive material is monitored on receipt and when in storage by the laboratory to ensure compliance with current legislation and guidelines.
5.3.2	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: The despatch from the laboratory of biological, chemical, toxic and radioactive material is performed in accordance with current regulation/guidelines.

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5.3.3	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: The disposal of biological, chemical, toxic and radioactive material is performed as per current legislation and guidelines.
5.3.4	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Protocols for incidents such as spills of biological, chemical, toxic and radioactive substances are followed in accordance with current regulations and guidelines.
5.3.5	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Monitoring of the workplace and staff in areas using radioactivity is performed in accordance with current regulations and guidelines.
5.3.6	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Staff handling radioactive substances are appropriately trained.
5.3.7	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Staff handling cytotoxic chemicals are appropriately trained.
5.3.8	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Staff generating or handling genetically modified organisms are appropriately trained.
5.3.9	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Laboratory workplace safety requirements are met when handling biological, chemical, toxic or radioactive substances.
5.4.1	Respond appropriately to emergency situations: Appropriate safety equipment and personal protective equipment (PPE) is available and used according to documented protocols.
5.4.2	Respond appropriately to emergency situations: Possible interactions of the various chemicals, reagents and biological material and potential hazards are known.
5.4.3	Respond appropriately to emergency situations: Knowledge and skill in using safety equipment to respond appropriately to emergencies is developed, maintained and documented.
5.4.4	Respond appropriately to emergency situations: Appropriate actions are taken as described in safety manuals.
5.4.5	Respond appropriately to emergency situations: Any emergency or safety related incidents are recorded and appropriately notified.
5.1	Maintenance and promotion of safe working practices: Prepare and store reagents and solutions
5.2	Maintenance and promotion of safe working practices: Identify and respond to unsafe work practices and breaches of regulations
5.3	Maintenance and promotion of safe working practices: Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes
5.4	Maintenance and promotion of safe working practices: Respond appropriately to emergency situations
6.2.1	Maintain and update scientific/technical knowledge and skills: There is participation in formal CPD program (such as APACE) if available.
6.2.2	Maintain and update scientific/technical knowledge and skills: Relevant scientific meetings are attended.
6.2.3	Maintain and update scientific/technical knowledge and skills: Relevant scientific literature is monitored.
6.2.4	Maintain and update scientific/technical knowledge and skills: Opportunities to enhance learning from investigation of unusual clinical cases and/or results are pursued.
6.2.5	Maintain and update scientific/technical knowledge and skills: Information from instrument/reagent manufacturers and suppliers is critically assessed.
6.3.1	Develop skills relevant to the enhancement of professional growth: An understanding of all aspects of laboratory operation and the place of laboratories in health care systems is demonstrated.
6.3.2	Develop skills relevant to the enhancement of professional growth: Initiative is shown in suggesting or volunteering for additional tasks.

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6.3.3	Develop skills relevant to the enhancement of professional growth: Additional skills are developed through activities in professional organisations and/or by attending courses.
6.4.1	Recognises own abilities and level of professional competence: Work is only undertaken within the limits of one's abilities, qualifications and training.
6.4.2	Recognises own abilities and level of professional competence: Consultation with senior staff is undertaken when a situation requires expertise beyond one's own abilities and qualifications.
6.4.3	Recognises own abilities and level of professional competence: Appropriate advice and guidance is given to other staff, commensurate with experience.
6.4.4	Recognises own abilities and level of professional competence: An appropriate example is set for other staff in the workplace.
6.5.1	Complies with profession's code of ethics: Decisions are made in a transparent, ethical, accountable and professional manner and conduct is demonstrated in a non-discriminatory manner.
6.5.2	Complies with profession's code of ethics: Professional judgement, skill and care are exercised to optimal standard and in such a way as to bring credit to the profession.
6.5.3	Complies with profession's code of ethics: Practices detrimental to patients and others are avoided.
6.5.4	Complies with profession's code of ethics: Confidential information gained in a professional capacity is not disclosed to unauthorised persons.
6.5.5	Complies with profession's code of ethics: Professional competence is maintained throughout career.
6.5.6	Complies with profession's code of ethics: Appropriate safety regulations are always followed.
6.5.7	Complies with profession's code of ethics: A responsible approach to the community and the environment with respect to the handling and disposal of hazardous materials is maintained.
6.2	Professional accountability and participation in continuing professional development: Maintain and update scientific/technical knowledge and skills
6.3	Professional accountability and participation in continuing professional development: Develop skills relevant to the enhancement of professional growth
6.4	Professional accountability and participation in continuing professional development: Recognises own abilities and level of professional competence
6.5	Professional accountability and participation in continuing professional development: Complies with profession's code of ethics
7.2.1	Makes independent, professional judgements: Problems are solved using sound judgement based upon knowledge and practical experience.
7.2.2	Makes independent, professional judgements: Implications associated with various outcomes of decision-making are recognised and understood.
7.4.1	Knowledge of new tests and their potential in the laboratory: Ongoing review of current literature for information on new or improved tests or procedures is performed.
7.4.2	Knowledge of new tests and their potential in the laboratory: Recommendations regarding suitability of test(s) as replacement is made based on review of methodology, literature and/or other laboratories' procedures.
7.4.3	Knowledge of new tests and their potential in the laboratory: New tests are developed and implemented into laboratory environment.
7.1.1	Accepts responsibility for own actions/omissions: Tasks are delegated to other medical scientists and technical staff commensurate with their abilities and scope of practice.
7.1.2	Accepts responsibility for own actions/omissions: Tasks are checked to ensure they are completed.
7.3.1	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Data and events are critically analysed from an ethical perspective.
7.3.2	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Rights of individuals/groups are recognised and protected.

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7.3.3	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Ethical problems and/or dilemmas in the workplace are identified and resolved appropriately or referred to a higher authority.
7.3.4	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Unprofessional conduct is identified and dealt with or notified accordingly.
7.3.5	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Serious misconduct is reported to appropriate authorities.
7.1	Responsibility for professional practice including test selection, development and use of laboratory investigations: Accepts responsibility for own actions/omissions
7.2	Responsibility for professional practice including test selection, development and use of laboratory investigations: Makes independent, professional judgements
7.3	Responsibility for professional practice including test selection, development and use of laboratory investigations: Demonstrates knowledge of contemporary ethical issues impinging on Medical Science
7.4	Responsibility for professional practice including test selection, development and use of laboratory investigations: Knowledge of new tests and their potential in the laboratory
8.1.1	Participate in quality improvement activities: Interactions of pathology with other components of the health service are identified and developed.
8.1.2	Participate in quality improvement activities: Quality issues are documented and brought to the attention of senior staff.
8.1.3	Participate in quality improvement activities: Suggestions for the better performance of the laboratory are made and different options are evaluated.
8.2.1	Continually review laboratory processes and testing to streamline, minimise waste and increase efficiency: Cost effective improvements to laboratory procedures or protocols are suggested.
8.2.2	Continually review laboratory processes and testing to streamline, minimise waste and increase efficiency: Changes in response to technology improvements that improve processes, enhance outcomes, efficiencies and economies, minimise waste and are environmentally responsible are implemented.
8.1	Liaison with health workers and others to continuously improve the service: Participate in quality improvement activities
8.2	Liaison with health workers and others to continuously improve the service: Continually review laboratory processes and testing to streamline, minimise waste and increase efficiency

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

MLS200 and enrolled in Program UB001

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

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

Laboratory reports will be marked every fortnight to provide feedback on understanding, performance and progression.

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	1a	Practical / Laboratory Skills	Individual	25%	Across all practical laboratory classes on a weekly basis.	Refer to Format	In Class
All	1b	Report	Individual	15%	A written 1000 word report	Week 6	Online Assignment Submission with plagiarism check
All	2	Practical / Laboratory Skills	Individual	30%	3hrs	Week 12	In Class
All	3	Examination - Centrally Scheduled	Individual	30%	120min + 10min perusal	Exam Period	Exam Venue

All - Assessment Task 1a: Laboratory Reports

GOAL:	To ensure that students are actively participating in laboratory practical classes and receiving early formative feedback when applying microbiology theory from learning materials.
PRODUCT:	Practical / Laboratory Skills
FORMAT:	Completing laboratory tasks as specified in MLS300 laboratory manual through the trimester.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 — Submit detailed laboratory workbooks documenting clinical microbiology techniques for pathogen identification, analysis of infections, and correct reporting of results based on sample processing, isolation, and identification procedures. — 1 4
GENERIC SKILLS:	Communication, Problem solving, Organisation, Applying technologies, Information literacy

All - Assessment Task 1b: Written report

GOAL:	Interpret and report on emerging trends of Microbiological assessment
PRODUCT:	Report
FORMAT:	Reports will be submitted to Canvas by week 6 in a digital format.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 — Research and write a critical evaluation on an emerging technique from scientific publications with a discussion the usability and appropriateness for diagnostic implementation — 3
GENERIC SKILLS:	Communication, Applying technologies, Information literacy

All - Assessment Task 2: Practical Laboratory Skills Examination

GOAL:	To assess practical skills in clinical microbiology.
PRODUCT:	Practical / Laboratory Skills
FORMAT:	This will be conducted at the end of the trimester.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 — A hands-on practical exam where students demonstrate their ability to apply microbiology techniques, isolate and identify pathogens, and accurately report results while differentiating between microbial infections. — 1 4
GENERIC SKILLS:	Communication, Problem solving, Organisation, Applying technologies, Information literacy

All - Assessment Task 3: Theory Examination

GOAL:	For the student to demonstrate their knowledge and understanding of theoretical, diagnostic, practical and clinical concepts of covered in clinical microbiology, aligned with AIMS expectations of medical laboratory scientists.
PRODUCT:	Examination - Centrally Scheduled
FORMAT:	This is a closed book, on-campus invigilated, centrally scheduled examination. It will consist of multiple-choice questions, short answers questions and case studies.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 — A written exam assessing theoretical understanding of clinical microbiology, including pathogen detection, infection comparison, and methods of treatment, with a focus on correct identification and microbial control strategies. — 1 2
GENERIC SKILLS:	Problem solving, Organisation, Applying technologies, Information literacy

6.4. Assessment to competency mapping

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
AIMS - COMPETENCY-BASED STANDARDS FOR MEDICAL SCIENTISTS				
	Examination - Centrally Scheduled	Theory Examination	1.1.7	Taught, Practiced, Assessed
			1.4.1	Taught, Practiced, Assessed
			1.6.2	Taught, Practiced, Assessed
			7.1.1	Taught, Practiced, Assessed
			7.3.1	Taught, Practiced, Assessed
			7.3.2	Taught, Practiced, Assessed
			7.3.3	Taught, Practiced, Assessed
			7.3.4	Taught, Practiced, Assessed
			7.3.5	Taught, Practiced, Assessed
			1.1.5	Taught, Practiced, Assessed
			1.1.6	Taught, Practiced, Assessed

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
All delivery modes	Practical / Laboratory Skills	Laboratory Reports	1.1.7	Taught, Practiced, Assessed
			1.4.1	Taught, Practiced, Assessed
			1.5.4	Taught, Practiced, Assessed
			1.6.2	Taught, Practiced, Assessed
			4.2.6	Taught, Practiced, Assessed
			5.3.2	Taught, Practiced, Assessed
			5.3.3	Taught, Practiced, Assessed
			5.3.5	Taught, Practiced, Assessed
			7.1.1	Taught, Practiced, Assessed
			7.3.1	Taught, Practiced, Assessed
			7.3.2	Taught, Practiced, Assessed
			7.3.3	Taught, Practiced, Assessed
			7.3.4	Taught, Practiced, Assessed
			7.3.5	Taught, Practiced, Assessed
			7.4.1	Taught, Practiced, Assessed
			9.2.1	Taught, Practiced, Assessed
		Practical Laboratory Skills Examination	1.4.1	Taught, Practiced, Assessed
			7.1.1	Taught, Practiced, Assessed
			7.3.1	Taught, Practiced, Assessed
			7.3.2	Taught, Practiced, Assessed
			7.3.3	Taught, Practiced, Assessed
			7.3.4	Taught, Practiced, Assessed
			7.3.5	Taught, Practiced, Assessed
	Report	Written report	4.4.1	Taught
			4.4.2	Taught
			4.4.3	Taught
			6.2.1	Practiced
			6.2.3	Practiced, Assessed
			6.2.4	Taught
			6.2.5	Taught
			6.3.2	Practiced
			9.1.1	Practiced
			10.4.1	Assessed

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.

7.1. Schedule

PERIOD AND TOPIC	ACTIVITIES
Module 1: Faecal Sample Analysis Weeks 1-2	Learning materials and tutorial/Laboratory Textbook Chapter
Module 2: Wound Sample Analysis Weeks 3-4	Learning materials and tutorial/Laboratory Textbook Chapter
Module 3: Respiratory Sample Analysis Weeks 5-7	Learning materials and tutorial/Laboratory Textbook Chapter
Module 4: Genital Sample Analysis Weeks 8-10	Learning materials and tutorial/Laboratory Textbook Chapter
Module 5: CSF and blood culture Sample Analysis Weeks 11-12	Learning materials and tutorial/Laboratory Textbook Chapter

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

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Recommended	PATRICIA M. TILLE	2025	BAILEY & SCOTT'S DIAGNOSTIC MICROBIOLOGY.	16th	Elsevier

8.2. Specific requirements

Students will require a computer with internet access.
Students will need to purchase safety glasses and laboratory coats and any other necessary PPE.
To successfully complete the UB001 Bachelor of Medical Laboratory Science (Pathology) and meet accreditation requirements of AIMS, UB001 students enrolled in MLS300 must attend and participate in all on-campus practical classes. UB001 students must attain ≥50% for theory and ≥50% laboratory practical assessment. All final theory assessments will be invigilated.

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. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: 07 5430 1168 or using the SafeZone app. For general enquires contact the SafeUniSC team by phone 07 5456 3864 or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call 07 5430 1226 or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the Learning Advisers web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to Student Hub, email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, AccessAbility Services can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to Student Hub, email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. 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

10.9. 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.

10.10. General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au