COURSE OUTLINE

MLS401 Laboratory Quality Systems

School: School of Health - Biomedicine

2027 | Session 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

Pathology laboratories perform many activities designed to ensure the safe, effective and efficient operation of the laboratory. This course will introduce you to sample management and tracking, quality assurance and improvement systems, laboratory accreditation, documentation and information management systems, laboratory health and safety and the economics of laboratory operations. You will explore the importance of effective management to reduce human error and improve efficiency in medical laboratories.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – On-line learning material	3.5hrs	Week 1	5 times
Tutorial/Workshop 1 – On-campus workshops in weeks 1, 3 and 5. Attendance is strongly encouraged as some activities will be completed as part of your Assessment Task 1 Quality Activity portfolio.	2hrs	Week 1	3 times
Laboratory 1 – Compulsory labs in PC2 facility in weeks 2, 3 and 4.	3hrs	Week 2	3 times

1.3. Course Topics

- Introduction to quality, laboratory standards and accreditation.
- AIMS Competency Standards.
- Facilities and safety
- Purchasing and inventory
- Sample management
- Laboratory information management systems (LIMS)
- Quality control, quality assurance and quality improvement
- Training and professional development
- Documentation and records
- Incident reporting

2. What level is this course?

400 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	GRADUATE QUALITIES MAPPING	PROFESSIONAL STANDARD MAPPING *
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	Australian Institute of Medical and Clinical Scientists
1 Identify the governmental and accrediting body regulations and standards applicable to pathology laboratories in Australia.	Engaged Information literacy	1.1.1, 1.1.6, 1.1.7, 1.1.8, 1.2.1, 1.5.4, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.6.5, 1.6.8, 3.1.1, 3.4.1, 3.4.2, 4.1.1, 4.1.3, 4.2.4, 4.2.5, 4.2.6, 4.3.3, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.1.6, 5.2.1, 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 9.4.1
2 Describe the operational and administrative activities undertaken in pathology laboratories to ensure safe, effective and efficient performance.	Engaged Organisation	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 7.4, 8.1, 8.2, 8.3, 8.4, 9.1, 9.2, 9.3, 9.4, 10.1
3 Examine the role and responsibilities of a medical laboratory scientist.	Empowered Organisation	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.3, 6.4, 6.5, 7.1, 7.2, 7.3, 7.4, 8.1, 8.2, 8.3, 8.4, 9.1, 9.2, 9.3, 9.4, 10.1
4 Collect, accurately record, interpret and draw conclusions from scientific data to make sound judgements about the validity of pathology test results.	Creative and critical thinker Information literacy	1.6.1, 1.6.2, 1.6.3, 1.6.4, 2.1.1, 2.1.2, 2.2.1, 2.3.1, 2.3.2, 3.1.1, 6.3.1, 7.2.1, 7.2.2

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN INSTITUTE OF MEDICAL AND CLINICAL SCIENTISTS	
1.1.1	Ensure the appropriateness of sample collection procedures: Correct request form is received as set out in established protocol.
1.1.6	Ensure the appropriateness of sample collection procedures: Collection is performed, consistent with established protocols and safe working practices.
1.1.7	Ensure the appropriateness of sample collection procedures: Specimen is collected into an appropriate container, then immediately and correctly labelled according to established protocols and regulations including minimum labelling requirements.
1.1.8	Ensure the appropriateness of sample collection procedures: Specimen is transported in a safe and timely manner under appropriate conditions according to established protocols and regulations.
1.2.1	Ensure the appropriateness of specimen reception procedures: Documentation is checked to ensure it matches specimen and complies with current regulations.
1.5.4	Process specimen utilising appropriate techniques: Processes are performed in accordance with prescribed methods, quality procedures and accepted safe working practices.
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).

CODE	COMPETENCY
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.
1.6.8	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.
1.1	Collection, preparation and analysis of clinical material: Ensure the appropriateness of sample collection procedures
1.2	Collection, preparation and analysis of clinical material: Ensure the appropriateness of specimen reception procedures
1.3	Collection, preparation and analysis of clinical material: Evaluate specimen suitability prior to analysis
1.4	Collection, preparation and analysis of clinical material: Determine the priority of laboratory requests (triage) to effectively manage service requirements
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.
2.1	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
3.1.1	Verify report(s) with sample identification: Sample identification is traceable from patient identification to reporting.
3.4.1	Ensure appropriate storage and disposal of data and reports: All results are recorded and retained according to current regulations and guidelines.
3.4.2	Ensure appropriate storage and disposal of data and reports: Reports are disposed of according to regulations and guidelines.
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

CODE	COMPETENCY
3.4	Interpretation, reporting and issuing of laboratory results: Ensure appropriate storage and disposal of data and reports
4.1.1	Coordinate supplies of stocks and reagents: Conditions of receipt and storage of laboratory supplies are according to manufacturers' specifications and current safety and quarantine regulations.
4.1.3	Coordinate supplies of stocks and reagents: Expired or dangerous materials are disposed of according to regulations.
4.2.4	Participate in maintenance of the laboratory and equipment: The status of the laboratory environment is monitored and any deficiencies detected are rectified and/or reported.
4.2.5	Participate in maintenance of the laboratory and equipment: Safety protocols for equipment are maintained e.g., electrical checks, safety guards in place.
4.2.6	Participate in maintenance of the laboratory and equipment: Risk assessments are performed for any deviation to recommended instrument safety protocols.
4.3.3	Participate in preparation and revision of manuals and protocols: Relevant guidelines for content of manuals and regulatory requirements are followed.
4.1	Maintenance of documentation, equipment, resources and stock: Coordinate supplies of stocks and reagents
4.2	Maintenance of documentation, equipment, resources and stock: Participate in maintenance of the laboratory and equipment
4.3	Maintenance of documentation, equipment, resources and stock: Participate in preparation and revision of manuals and protocols
4.4	Maintenance of documentation, equipment, resources and stock: Ensure appropriate resources are available to the laboratory
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.
5.2.1	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.
5.3.1	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.
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.
5.1	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

CODE	COMPETENCY
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
6.3.1	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.
6.1	Professional accountability and participation in continuing professional development: Establish and communicate personal goals in professional development
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.
7.1	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	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
8.3	Liaison with health workers and others to continuously improve the service: Establish and maintain relationships with suppliers
8.4	Liaison with health workers and others to continuously improve the service: Establish and maintain relationships with service users
9.4.1	Train personnel in the operation of instruments and equipment, the performance of methods and quality control procedures, patient confidentiality, and the observation of safety measures: Training complies with the requirements of ISO15189 or equivalent standard.
9.1	Participation in education and training of health workers and others: Research, prepare and deliver appropriate presentations
9.2	Participation in education and training of health workers and others: Participate in interdepartmental and other meetings
9.3	Participation in education and training of health workers and others: Where appropriate, provide instruction on collection, testing of specimens, interpretation and significance of results and service delivery
9.4	Participation in education and training of health workers and others: Train personnel in the operation of instruments and equipment, the performance of methods and quality control procedures, patient confidentiality, and the observation of safety measures
10.1	Contribution to advancement of knowledge and improvement of laboratory practice: Contribute to planning and design of research and development projects

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

MLS300 and MLS301 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

Students will receive feedback on activities performed in workshops and submission of small sub-assessment tasks submitted early in the Session/Trimester.

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	Portfolio	Individual	40%	Throughout teaching period	Throughout teaching period (refer to Format)	Online Assignment Submission with plagiarism check and in class
All	2	Report	Group	20%	3 hours in laboratory class.	Refer to Format	Online Assignment Submission with plagiarism check and in class
All	3	Artefact - Creative, and Written Piece	Individual	40%	1000 words +/- 10%	Week 6	Online Assignment Submission with plagiarism check

All - Assessment Task 1: Quality Activities

GOAL:	To assess your understanding of quality control and quality assurance procedures, interpretation and reporting in a range of pathology disciplines.
PRODUCT:	Portfolio
FORMAT:	A series of tasks completed in workshops, lab classes and at home, submitted on paper or on-line. May include: interpretation of QC data, equipment calibration/performance check, mock EQAP, risk assessment, root cause analysis. Details to be confirmed before first offering.
CRITERIA:	

No.		Learning Outcome assessed
1	Perform calculations and plot a range of chart types using raw clinical quality control data.	2 3 4
2	Interpret data, identify trends or shifts, determine possible causes and provide advice regarding corrective actions.	2 3 4
3	Identify health and safety risks in a laboratory setting and make recommendations for improvements.	1 2 3
4	Understand how quality control and quality assurance activities contribute to the safe, effective and efficient operation of pathology laboratories.	2 3 4

GENERIC SKILLS:	Problem solving, Applying technologies, Information literacy

All - Assessment Task 2: Mock Audit

GOAL:	To assess your understanding of health and safety, legislative and accreditation standards that apply when performing routine laboratory procedures.
PRODUCT:	Report
FORMAT:	Audit documentation submitted in class and critical evaluation written report submitted online within 1 week of completion of audit.
CRITERIA:	

No.		Learning Outcome assessed
1	Identify the relevant WHS regulations, standards and legislative requirements for the performance of a routine pathology test.	1 2 3
2	Make observations to highlight gaps in compliance and identify opportunities for improvement in the performance of a routine procedure.	1 2 3

GENERIC SKILLS:	Communication, Collaboration, Problem solving, Organisation, Information literacy

All - Assessment Task 3: Workflow

GOAL:	To assess your understanding of the workflow for a chosen test procedure and identify the points at which legislative requirements, laboratory standards and WHS impact test performance.
PRODUCT:	Artefact - Creative, and Written Piece
FORMAT:	Develop a workflow poster and an associated written report.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 — Illustrate the workflow for a test procedure, from sample collection to result validation and sample storage. — 2 3 2 — Explain the legislative, accreditation and health and safety standards or regulations that impact each stage of a sample workflow. — 1 2 3
GENERIC SKILLS:	Communication, Problem solving, Organisation, Information literacy

6.4. Assessment to competency mapping

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
AIMS - COMPETENCY-BASED STANDARDS FOR MEDICAL SCIENTISTS				
	Artefact - Creative, and Written Piece	Workflow	1.1.2	Taught, Practiced, Assessed
			1.1.7	Taught, Practiced, Assessed
			1.1.8	Taught, Practiced, Assessed
			1.2.1	Taught, Practiced, Assessed
			1.3.1	Taught, Practiced, Assessed
			1.3.2	Taught, Practiced, Assessed
			1.3.3	Taught, Practiced, Assessed
			1.3.4	Taught, Practiced, Assessed
			1.3.5	Taught, Practiced, Assessed
			1.3.6	Taught, Practiced, Assessed
			1.3.7	Taught, Practiced, Assessed
			1.5.2	Taught, Practiced, Assessed
			1.5.3	Taught, Practiced, Assessed
			1.5.4	Taught, Practiced, Assessed
			1.6.1	Taught, Practiced, Assessed
			1.6.2	Taught, Practiced, Assessed
			1.6.3	Taught, Practiced, Assessed
			1.6.4	Taught, Practiced, Assessed
			1.6.5	Taught, Practiced, Assessed
			1.6.8	Taught, Practiced, Assessed
			2.1.2	Taught, Practiced, Assessed
			2.2.1	Taught, Practiced, Assessed
			2.3.1	Taught, Practiced, Assessed
			2.3.2	Taught, Practiced, Assessed
			3.1.1	Taught, Practiced, Assessed
			3.2.6	Taught, Practiced, Assessed
			3.2.7	Taught, Practiced, Assessed
			3.3.1	Taught, Practiced, Assessed
			3.3.2	Taught, Practiced, Assessed
			3.4.1	Taught, Practiced, Assessed
			3.4.2	Taught, Practiced, Assessed
			4.1.1	Taught, Practiced, Assessed
			4.1.3	Taught, Practiced, Assessed
			4.2.1	Taught, Practiced, Assessed
			4.2.2	Taught, Practiced, Assessed

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
All delivery modes			4.2.3	Taught, Practiced, Assessed
			4.2.4	Taught, Practiced, Assessed
			4.2.5	Taught, Practiced, Assessed
			4.2.6	Taught, Practiced, Assessed
			4.3.1	Taught, Practiced, Assessed
			4.3.3	Taught, Practiced, Assessed
			5.1.1	Taught, Practiced, Assessed
			5.1.2	Taught, Practiced, Assessed
			5.1.4	Taught, Practiced, Assessed
			5.1.5	Taught, Practiced, Assessed
			5.1.6	Taught, Practiced, Assessed
			5.2.1	Taught, Practiced, Assessed
			5.3.9	Taught, Practiced, Assessed
			5.4.1	Taught, Practiced, Assessed
			5.4.4	Taught, Practiced, Assessed
			8.1.2	Taught, Practiced, Assessed
			9.3.2	Taught, Practiced, Assessed
			9.4.1	Taught, Practiced, Assessed
	Portfolio	Quality Activities	1.1.2	Practiced, Assessed
			1.1.7	Practiced, Assessed
			1.1.8	Practiced, Assessed
			1.2.2	Practiced, Assessed
			1.2.3	Practiced, Assessed
			1.2.4	Practiced, Assessed
			1.3.1	Practiced, Assessed
			1.3.2	Practiced, Assessed
			1.3.3	Practiced, Assessed
			1.3.4	Practiced, Assessed
			1.3.5	Practiced, Assessed
			1.5.4	Practiced, Assessed
			1.6.1	Taught, Practiced, Assessed
			1.6.2	Taught, Practiced, Assessed
			1.6.4	Taught, Practiced, Assessed
			2.1.1	Practiced, Assessed
			2.1.2	Practiced, Assessed
			2.2.1	Practiced, Assessed
			2.3.1	Practiced, Assessed
			4.1.1	Practiced, Assessed
			4.2.3	Taught, Practiced, Assessed
			4.2.4	Taught, Practiced, Assessed
			4.2.5	Taught, Practiced, Assessed
			4.2.6	Taught, Practiced, Assessed
			4.3.1	Taught, Practiced, Assessed
			4.3.2	Taught, Practiced, Assessed
			4.3.3	Taught, Practiced, Assessed
			4.3.5	Taught, Practiced, Assessed
			5.1.3	Taught, Practiced, Assessed
			5.1.4	Taught, Practiced, Assessed
			5.1.5	Taught, Practiced, Assessed
			5.1.6	Taught, Practiced, Assessed
			5.2.1	Taught, Practiced, Assessed
			5.2.3	Practiced, Assessed
			6.3.1	Taught, Practiced, Assessed
			6.5.6	Taught, Practiced, Assessed
			6.5.7	Taught, Practiced, Assessed
			8.1.1	Taught, Practiced, Assessed

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
			8.1.2	Taught, Practiced, Assessed
			8.1.3	Taught, Practiced, Assessed
			8.2.2	Taught, Practiced, Assessed
			9.3.2	Taught, Practiced, Assessed
	Report	Mock Audit	1.1.2	Taught, Practiced, Assessed
			1.1.3	Taught, Practiced, Assessed
			1.1.7	Taught, Practiced, Assessed
			1.1.8	Taught, Practiced, Assessed
			1.2.1	Taught, Practiced, Assessed
			1.2.2	Taught, Practiced, Assessed
			1.3.1	Taught, Practiced, Assessed
			1.3.2	Taught, Practiced, Assessed
			1.3.3	Taught, Practiced, Assessed
			1.3.4	Taught, Practiced, Assessed
			1.3.5	Taught, Practiced, Assessed
			1.5.2	Taught, Practiced, Assessed
			1.5.3	Taught, Practiced, Assessed
			1.5.4	Taught, Practiced, Assessed
			1.6.1	Taught, Practiced, Assessed
			1.6.2	Taught, Practiced, Assessed
			1.6.3	Taught, Practiced, Assessed
			1.6.4	Taught, Practiced, Assessed
			1.6.5	Taught, Practiced, Assessed
			1.6.6	Taught, Practiced, Assessed
			1.6.7	Taught, Practiced, Assessed
			1.6.8	Taught, Practiced, Assessed
			2.1.1	Taught, Practiced, Assessed
			2.3.1	Taught, Practiced, Assessed
			3.1.1	Taught, Practiced, Assessed
			3.2.6	Taught, Practiced, Assessed
			3.3.1	Taught, Practiced, Assessed
			3.4.1	Taught, Practiced, Assessed
			4.3.1	Taught, Practiced, Assessed
			4.3.2	Taught, Practiced, Assessed
			4.3.3	Taught, Practiced, Assessed
			4.3.5	Taught, Practiced, Assessed
			4.3.6	Taught, Practiced, Assessed
			5.1.2	Taught, Practiced, Assessed
			5.1.4	Taught, Practiced, Assessed
			5.1.5	Taught, Practiced, Assessed
			5.1.6	Taught, Practiced, Assessed
			5.2.2	Taught, Practiced, Assessed
			6.3.1	Taught, Practiced, Assessed
			8.1.1	Taught, Practiced, Assessed
			8.1.2	Taught, Practiced, Assessed
			8.1.3	Taught, Practiced, Assessed
			8.2.2	Taught, Practiced, Assessed
			8.4.4	Taught, Practiced, 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.

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

There are no required/recommended resources for this course.

8.2. Specific requirements

Not applicable

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