

MLS301 Histopathology

School: School of Health - Biomedicine

2026 | Trimester 2

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

This course introduces you to histopathology, which entails detection of disease through examination of tissues using macroscopic and microscopic methods. You will acquire skills in the use of manual and automated systems to prepare clinical specimens for microscopy. Skills will be developed in tissue sectioning, preparation of slide films, routine and specialised staining procedures and immunohistochemistry.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Online	2hrs	Week 1	12 times
Tutorial/Workshop 1 – On campus fortnightly	2hrs	Week 1	6 times
Laboratory 1 – On campus	3hrs	Week 1	12 times

1.3. Course Topics

- Introduction to cytopathology
- Cellular adaptations and cell death
- Inflammation
- Healing & repair
- Histopathology of Neoplasia
- Genetics of Neoplasia
- Histopathology of the Reproductive system
- Gastrointestinal histopathology
- Liver histopathology
- Histopathology of the Nervous and Endocrine Systems
- Histopathology of the Respiratory system

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	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 Demonstrate competency in histological techniques, for routine and special staining for histopathology testing.	Empowered Applying technologies	1.1.5, 1.1.6, 1.1.7, 1.4.1, 1.5.4, 1.6.2, 4.2.6, 5.3.2, 5.3.3, 5.3.5, 7.1.1, 7.3.4, 7.3
2 Identify, describe and classify the microscopic structure and morphological features of human cells, tissues and organ systems in the human body in a pathological state.	Knowledgeable	1.4.1, 7.1.1, 7.3.1, 7.3.3, 7.3.4, 7.3
3 Interpret staining results and morphological features of tissues in a pathological state to support the clinical diagnosis of patients.	Creative and critical thinker	1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.6.5, 1.6.6, 1.6.7, 1.6.8, 2, 3.3
4 Apply ethical principles relevant to working as part of a multidisciplinary team.	Ethical	6.5.1, 6.5.2, 6.5.3, 6.5.4, 6.5.5, 6.5.6, 6.5.7, 6.5, 7.1.1, 7.3.4, 7.3.5, 8, 8.1.1, 8.1.2, 8.1.3, 8.1, 8.2, 8.3, 8.4

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN INSTITUTE OF MEDICAL AND CLINICAL SCIENTISTS	
1.1.5	Ensure the appropriateness of sample collection procedures: Patient is informed of procedure, advised of possible associated risks, and agreement to proceed is obtained.
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.
1.4.1	Determine the priority of laboratory requests (triage) to effectively manage service requirements: Priority of analysis is modified based on clinical necessity, as indicated by medical officer(s) and laboratory guidelines, then by staff and equipment availability.
1.5.4	Process specimen utilising appropriate techniques: Processes are performed in accordance with prescribed methods, quality procedures and accepted safe working practices.
1.6.2	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.
1.6.1	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).
1.6.3	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.

CODE	COMPETENCY
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.
2	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information
3.3	Interpretation, reporting and issuing of laboratory results: Ensure that results with important diagnostic or treatment implications are communicated as per established protocols
4.2.6	Participate in maintenance of the laboratory and equipment: Risk assessments are performed for any deviation to recommended instrument safety protocols.
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.
5.3.5	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.
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.
6.5	Professional accountability and participation in continuing professional development: Complies with profession's code of ethics
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.
7.3.4	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Unprofessional conduct is identified and dealt with or notified accordingly.
7.3.1	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Data and events are critically analysed from an ethical perspective.
7.3.3	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.
7.3.5	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Serious misconduct is reported to appropriate authorities.
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
8	Liaison with health workers and others to continuously improve the service
8.1.1	Participate in quality improvement activities: Interactions of pathology with other components of the health service are identified and developed.

CODE	COMPETENCY
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.
8.1	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

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

MLS121 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

Early feedback on progress will occur using a skills portfolio that provides assessment of in class participation and content recorded based on the week's laboratory activities and online modules.

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	20%	Weekly for 12 weeks	Throughout teaching period (refer to Format)	In Class
All	2	Practical / Laboratory Skills	Individual	40%	3 hours	Week 12	In Class
All	3	Examination - not Centrally Scheduled	Individual	40%	2 hours	Week 12	In Class

All - Assessment Task 1: Practical portfolio

GOAL:	To relate histopathology theory from lectures / learning material to laboratory practice through the activities and exercises in the laboratory classes.	
PRODUCT:	Portfolio	
FORMAT:	Weekly written submission	
CRITERIA:	No.	Learning Outcome assessed
	1	Demonstration of competency in the conduct of histopathology techniques, adhering to professional standards. 1
	2	Quality of analysis and interpretation of staining. 3
	3	Application and understanding of histopathological testing in clinical samples. 2
GENERIC SKILLS:	Communication, Organisation, Applying technologies	

All - Assessment Task 2: Practical exam

GOAL:	To develop advanced laboratory skills and competencies in histopathology that would meet the requirementst of AIMS for training medical laboratory scientists.	
PRODUCT:	Practical / Laboratory Skills	
FORMAT:	Practical component will comprise of histopathology sample processing, sectioning and staining including special stains. Written component will comprise of analysis of staining results and report writing according to AIMS standards.	
CRITERIA:	No.	Learning Outcome assessed
	1	Competence in histopathological techniques. 1 4
	2	Ability to interpret and report on results using appropriate terminology. 2 3 4
	3	Analysis and understanding of histopathological tests and techniques. 2 3
GENERIC SKILLS:	Communication, Collaboration, Problem solving, Organisation, Applying technologies	

All - Assessment Task 3: Theory exam

GOAL:	To demonstrate knowledge and understanding of theoretical, diagnostic, practical and clinical concepts of histopathology.	
PRODUCT:	Examination - not Centrally Scheduled	
FORMAT:	Written exam will comprise of multiple choice and short answer components.	
CRITERIA:	No.	Learning Outcome assessed
	1	Ability to synthesise the elements of the course, analyse information and explain theories that underpin histopathology. 2 3
	2	Ability to interpret and report on results using appropriate terminology. 2 3
	3	Analysis and understanding of histopathological tests and techniques. 1 2
GENERIC SKILLS:	Communication, Problem solving, Organisation, Applying technologies	

6.4. Assessment to competency mapping

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
AIMS - COMPETENCY-BASED STANDARDS FOR MEDICAL SCIENTISTS				
All delivery modes	Examination - not Centrally Scheduled	Theory exam	1.4.1	Assessed
			7.1.1	Assessed
			7.3.1	Assessed
			7.3.4	Assessed
	Portfolio	Practical portfolio	1.4.1	Assessed
			7.1.1	Assessed
			7.3.1	Assessed
			7.3.3	Assessed
	Practical / Laboratory Skills	Practical exam	1.4.1	Assessed
			7.1.1	Assessed
			7.3.1	Assessed
			7.3.3	Assessed
			7.3.5	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
Week 1. Introduction to cytopathology.	Quick stains (H&E, Pap stain/Diff quick, Oil red O) for histology and cytology
Week 2 Cellular adaptations and cell death.	Quick stains (H&E, Pap stain/Diff quick, Oil red O) for histology and cytology
Week 3 Inflammation	Special stains for inflammation and healing: Van Gieson, Toluidine Blue & Mason's Trichrome
Week 4 Healing & repair	Special stains for inflammation and healing: Van Gieson, Toluidine Blue & Mason's Trichrome
Week 5 Histopathology of Neoplasia	Special stains for neoplasm: Schmorl's stain for melanin & Immunohistochemistry
Week 6 Genetics of Neoplasia	Special stains for neoplasm: Schmorl's stain for melanin & Immunohistochemistry
Week 7 Histopathology of the Reproductive system	SCUH histology lab tour
Week 8 Gastrointestinal histopathology	Special stains for micro-organisms - Ziehl Neelson stain, Grocott's Methenamine Silver and Gram staining
Week 9 Liver histopathology	Special stains for liver: Reticulin staining & Perl's Prussian blue
Week 10 Histopathology of the Nervous and Endocrine Systems	Neurological stains - Luxol fast Blue, Cresyl violet
Week 11 Histopathology of the Respiratory system	Special stains revision: Ziehl Neelson stain, Grocott's Methenamine Silver, Gram staining, Reticulin staining & Perl's Prussian blue, Luxol fast Blue, Cresyl violet
Week 12 Revision	Theory and practical exams

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	Geraldine O'Dowd, Sarah Bell, Sylvia Wright	2019	Wheater's Pathology	6	Churchill Livingstone

8.2. Specific requirements

To successfully complete the UB001 Bachelor of Medical Laboratory Science (Pathology) and meet accreditation requirements of AIMS, UB001 students enrolled in MLS301 must attend and participate in all on-campus practical classes. UB001 students must attain $\geq 50\%$ for theory and $\geq 50\%$ laboratory practical assessment. All final theory assessments will be invigilated.

You are required to complete the WHS laboratory induction and successfully complete the quiz before the first practical session, wear appropriate personal protective equipment (PPE) during the practical component, including covered, non-slip shoes, laboratory coat/gown and safety glasses, long hair should be tied back.

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

Not applicable

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](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) 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](tel:0754301226) 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