COURSE OUTLINE

MLS121 Histology

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

1. What is this course about?

1.1. Description

Histology is the area of general pathology concerning cells, tissues and organs in the human body. Basic tissue types -epithelium, connective tissue, muscle, nerves followed by the arrangement of tissues in major organ systems, including the circulatory, lymphatic, integumentary, skeletal, nervous, respiratory, digestive, urinary, endocrine, exocrine and reproductive systems will be covered. Development in histological techniques used in pathology services, including light microscopy, fixation, staining, embedding, sectioning and immunohistochemistry will also be assessed.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Fully independent asynchronous learning	1.5hrs	Week 1	12 times
Tutorial/Workshop 1 – On campus discussion and review of histology theory and concepts	2hrs	Week 2	6 times
Laboratory 1 – On campus laboratories to gain competency in histology techniques.	3hrs	Week 1	12 times

1.3. Course Topics

2. 1a. Introduction to Histology
   - Cell structure in detail
   - Overview of the basic tissue types
   - Organ systems
   - Overview of histological techniques
   - Light and electron microscopy
3. 1b. Histology Techniques
   - Fixation
   - Tissue Processing
   - Dehydration, clearing, embedding and sectioning
   - Routine & Special Stains
   - Cryostat
4. 2. Epithelial Tissues
   - Squamous, cuboidal, columnar

- Simple and stratified
- Distinguishing cellular structures

5. 3. Connective Tissues
   - Connective tissue proper
   - Blood
   - Cartilage and bone
   - Bone cells and the matrix
6. 4. Muscle Tissues
   - Skeletal muscle fibre types
   - Cardiac muscle fibres
   - Smooth muscle cells
7. 5. Nervous System
   - CNS & PNS
   - The neuron and structural classification
   - Neuroglia
8. 6. Integumentary System
   - Epidermis, dermis, hypodermis
   - Accessory structures (hair, nails, exocrine glands)
9. 7. Digestive System and Accessory Organs
   - GIT, Pancreas & Gallbladder
10. 8. Urinary System
    - Sections of the kidneys (nephron structure)
    - Ureters, urinary bladder and urethra
11. 9. Respiratory System
    - Upper respiratory passage and nasal cavity
    - Respiratory epithelium
    - Trachea
    - The lungs, and pleural cavities and membranes

9b. Immunohistochemistry

10. Circulatory and lymphatic Systems

- Sections of the heart
- Blood vessels
- Components of the lymphatic system

12. 11. Reproductive System
    - Male – testes and accessory glands
    - Female – ovaries, cervix, uterine tubes, uterus, vagina and mammary glands
13. 12. Skeletal System
    - Bone cells revision
    - Compact bone structure
    - Periosteum and endosteum

14. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

15. What is the unit value of this course?

12 units

16. 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 * Competencies from multiple Professional Bodies (see below) *
1 Identify, describe and classify the microscopic structure of human cells and the basic tissues types through the compound light microscope and virtual slides	Knowledgeable	1.3.1, 1.3.2, 1.3.4, 1.3.7, 1.6.1, 1.2, 1.5, 2, 2.1.1, 2.3, 3.1
2 Identify, describe and classify the morphological features of major organ systems in the human body	Knowledgeable	1.3.1, 1.3.2, 1.6.1, 1.6.6, 1.6.7, 2.1.1, 3.1
3 Show competency in histological techniques, for routine preparation of cells and tissue for compound light microscopy	Empowered	1.1.2, 1.6.6, 1.6.7, 1.3, 1.5, 4, 5.1.5, 5.3, 7.1, 7.2

* 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.
1.3.4	Evaluate specimen suitability prior to analysis: Quality of specimen meets defined acceptability criteria.
1.3.7	Evaluate specimen suitability prior to analysis: Specimens are prepared for analysis.
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).
1.6.6	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.
1.1.2	Ensure the appropriateness of sample collection procedures: Identification of patient and demographic information is established.
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
1.5	Collection, preparation and analysis of clinical material: Process specimen utilising appropriate techniques
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.
2.3	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	Interpretation, reporting and issuing of laboratory results: Verify report(s) with sample identification
4	Maintenance of documentation, equipment, resources and stock
5.1.5	Prepare and store reagents and solutions: Reagents are handled as required by regulatory guidelines.
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

CODE	COMPETENCY
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
ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH CURRICULUM FRAMEWORK	
2	Respect: Aboriginal and Torres Strait Islander culture, beliefs and practices

17. 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".

17.1. Pre-requisites

LFS100 and enrolled in Program SC211 or UB001

17.2. Co-requisites

LFS112

17.3. Anti-requisites

Not applicable

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

Not applicable

17.5. Microcredential Information

Not applicable

18. How am I going to be assessed?

18.1. Grading Scale

Standard Grading (GRD)

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

18.2. Details of early feedback on progress

Formative and summative quizzes will be available in the first third of the course to provide feedback on your academic progress. You will be introduced to practical content from week 1 and can also attempt virtual morphology online in the tutorials. These activities will provide you with feedback and help prepare you for the assessment tasks in the course.

18.3. 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	Quiz/zes	Individual	25%	20 mins per quiz	Throughout teaching period (refer to Format)	In Class
All	2	Practical / Laboratory Skills	Individual	40%	3 hours	Week 9	In Class
All	3	Practical / Laboratory Skills, and Written Piece	Individual	35%	3 hours	Week 12	In Class

All - Assessment Task 1: Theory Review Quizzes and competencies

GOAL:	To identify, describe and apply understanding of staining techniques, the compound light microscope, microscopic structure of human cells, the 4 basic tissues types and organ systems of the human body.
PRODUCT:	Quiz/zes
AUTHORSHIP STATEMENT:	
FORMAT:	Multiple choice/short answer questions
CRITERIA:	

No.		Learning Outcome assessed
1	You will be assessed on your ability to: -recall factual information in the MLS121 Histology teaching materials -solve problems based on theoretical material and information covered in modules, laboratories and tutorials	1 2 3

GENERIC SKILLS:	Problem solving

All - Assessment Task 2: Practical Histology Exam 1

GOAL:	To develop satisfactory laboratory skills and competencies in Histology that would meet the requirements of the QLD pathology industry for training medical science technicians. Students must complete the training for this assessment in the preceding labs before attending the exam, this includes attendance of the laboratory practicals. This is a health and safety requirement.
PRODUCT:	Practical / Laboratory Skills
AUTHORSHIP STATEMENT:	
FORMAT:	You will bring in records of the preceding lab training sessions to gain entrance into this exam. Your tutor and lecturer will sign your lab book for each lab and associated lab work completed. This is your evidence that you have been appropriately trained and can demonstrate appropriate health and safety measures to undertake this exam at industry standard.
CRITERIA:	

No.		Learning Outcome assessed
1	You will be assessed on safety in the laboratory and your ability to embed and section a paraffin tissue sample, undertake staining processes used in pathology testing, identify and describe the techniques for tissue fixation, processing and cryostat	3

GENERIC SKILLS:	Problem solving, Organisation, Applying technologies

All - Assessment Task 3: Histology Exam 2

GOAL:	To develop satisfactory knowledge, laboratory skills and competencies in Histology morphology that would meet the requirements of the QLD pathology industry for training medical science technicians. Students must complete the light microscopy and virtual microscopy training for this assessment in the preceding labs before attending the exam. This is a health and safety requirement.
PRODUCT:	Practical / Laboratory Skills, and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	You may be required to provide records of the preceding lab or tutorial training sessions to gain entrance into this exam. Your facilitator will sign your lab book or have an online record for each morphology activity completed. This is your evidence that you have been appropriately trained and can demonstrate appropriate health and safety measures to undertake this exam at industry standard.
CRITERIA:	**No.** / **Learning Outcome assessed** 1 You will be assessed on your ability to recognise, describe and understand the techniques used to identify the morphological features of organ systems in the body using virtual slides/images online. — 1 2
GENERIC SKILLS:	Problem solving, Applying technologies

18.4. Assessment to competency mapping

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
AIMS - COMPETENCY-BASED STANDARDS FOR MEDICAL SCIENTISTS				
All delivery modes	Practical / Laboratory Skills	Practical Histology Exam 1	1.1.1	Taught, Practiced, Assessed
			1.1.2	Taught, Practiced, Assessed
			1.1.3	Taught, Practiced, Assessed
			1.2.3	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
			1.5.3	Taught, Assessed
			5.2.1	Taught, Practiced, Assessed
			5.2.2	Taught, Practiced, Assessed
			5.4.1	Taught, Practiced, Assessed

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
			7.1.2	Taught, Practiced, Assessed
	Practical / Laboratory Skills, and Written Piece	Histology Exam 2	1.6.4	Taught, Practiced, Assessed
			1.6.6	Taught, Practiced, Assessed
			1.6.7	Taught, Practiced, Assessed
	Quiz/zes	Theory Review Quizzes and competencies	1.2.1	Taught, Practiced, Assessed
			1.3.3	Taught, Practiced, Assessed
			1.5.1	Taught, Practiced, Assessed
			1.6.3	Taught, Practiced, Assessed
			1.6.6	Taught, Practiced, Assessed
			1.6.7	Taught, Practiced, Assessed

19. 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.

20. 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.

20.1. Prescribed text(s) or course reader

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

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Anthony Mescher	2018	Junqueira's Basic Histology: Text and Atlas, Fiifteenth Edition	n/a	McGraw-Hill Education / Medical

20.2. Specific requirements

To successfully complete the UB001 Bachelor of Medical Laboratory Science (Pathology) and meet accreditation requirements of AIMS, UB001 students enrolled in MLS121 must attend and participate in all on-campus practical classes. All final theory assessments will be invigilated. UB001 students must attain ≥50% for theory and ≥50% laboratory practical assessment.

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.

21. 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

22. What administrative information is relevant to this course?

22.1. 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.

22.2. 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

22.3. 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

22.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

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

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

22.5. Student Charter

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

22.6. General Enquiries

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

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

- UniSC Student Central
- UniSC Adelaide Student Central